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ABSTRACT

One hundred college remedial writing students participated in a study designed to (1) demonstrate some of the differences between speaking and writing in a controlled situation; (2) test the hypothesis that the writing of subjects who have spoken about a particular topic will be qualitatively superior to the writing of those who have not; and (3) determine the degree of semantic transfer from prior speaking to subsequent writing on the same topic. Divided evenly into experimental (speak/write) and control (write only) groups, all subjects watched a film as stimulus for writing. The experimental subjects were interviewed individually on the subject of the film, the conversations were tape recorded, and students were asked to write a 30-minute essay on a general topic generated by the film. The control subjects were given the same instruction but were asked only to write the 30-minute essay. Essays were evaluated for quantifiable variables (words, T-units, subordinate clauses, and propositions) and judged holistically. Results indicated that the speak/write technique proved beneficial to the writing of the experimental subjects. Not only did their fluency in the use of certain quantifiable variables prove to be greater than that of the control group, but judged holistically their essays were of higher quality in terms of sophistication and number of ideas expressed, development, and organization. In addition, the prior oral exposition stimulated thinking and facilitated organization. (Appendixes contain instructions for evaluators and extensive excerpts from oral transcripts and corresponding essays.) (HOD)

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FINAL REPORT

To

The National Institute of Education

on

NIE-G-82-0026
(September, 1982-September, 1983)

"The Nature and Quality of Compensatory Oral Expression and Its Effect on Writing in Students of College Composition"

by

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October 31, 1983

CS 208159

ABSTRACT

One hundred remedial writing students at Washington State University volunteered as subjects for this experiment designed to demonstrate some of the differences between speaking and writing in a controlled situation, to test the hypothesis that the writing of subjects who have spoken about a particular topic will be qualitatively superior to the writing of those who have not, and to determine the degree of semantic transfer from prior speaking to subsequent writing on the same topic.

Divided evenly into experimental (Speakwrite) and control (Writeonly) groups, all subjects watched a film as stimulus for later exposition. The experimental subjects were interviewed individually on the subject of the film, the conversations taperecorded, and then were asked to write a 30-minute essay on a general topic generated by the film, using the best techniques for writing they knew. The control subjects were asked only to write the 30-minute essay and were given the same instructions.

Four raters counted certain quantifiable variables: words, T-units, subordinate clauses (noun, adjectival, adverbial), and propositions. Ten outside evaluators judged the quality of all written responses holistically. All ratings and evaluations were subjected to statistical analyses to determine the significance of differences in performance between groups.

Largely to statistically significant levels, the Speakwrites showed greater fluency in use of the quantifiable variables than the Writeonlys, and the Speakwrites' holistic mean of 18.94 as opposed to the Writeonlys' mean of 15.60 ($p < .02$) indicates the quality of the Speakwrites' essays to be superior to the Writeonlys'. Ratings and evaluations also indicated that females as a whole wrote better than males, but that Speakwrite males ranked higher than Writeonly males, and Speakwrite females wrote with greater, more meaningful economy than Writeonly females. No signficance could be determined for differences among ethnic categories, though the results are reported herein.

The results suggest that a new oral/written pedagogy, incorporated primarily and consistently as prewriting exercises, be instituted in remedial, or developmental, writing classes, if not in all beginning writing classes.

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STATEMENT OF THE PROBLEM AND REVIEW OF THE LITERATURE

The impetus for the research reviewed and analyzed here was generated by some fairly simple questions: What is the difference between spoken and written language? Why can students often explain or present a topic more fully in speech than they can in writing? What can be done to capitalize on established abilities in speaking in the teaching of writing? How can the teaching of writing be made more effective and efficient? The questions themselves grew from such sources as the stark economic realities of the 80's, which have begun to check the functioning of remedial English education programs and have brought about calls for greater accountability, efficiency, consolidation, and in some cases even elimination of programs throughout the country.

There was also the personal experience of counseling poor writers, who could often say more in conference, and say it with greater elaboration and logical development, than they could in writing. Revisions of pieces of writing after such conversations almost always proved to be better formed, more fully developed, and generally more felicitously expressed. This led, in part, to the idea, which has been supported to some degree in the literature (Zoellner, 1969; Cayer and Sacks, 1979) that poor writers' better abilities to use language orally might well be more systematically utilized and directly transferred to writing. Further, it led to one of the controlling hypotheses of the present research: that prior oral exposition on a topic will have a beneficial effect upon subsequent written exposition on the same topic.

Finally, the shape of the research design came from the realization that much recent composition theory, especially dealing with the differences between oral and written language, has been generally highly theoretical, and not based upon any substantial body of empirical evidence. This provided room to begin testing empirically the fairly well received idea that poor writers have greater difficulty imagining an audience (Bernstein, 1971; Halliday and Hasan, 1976) and that their greater ease with spoken language, where there is an immediately identified audience, might be utilized as a device for instruction in writing.

Though not abundant, the literature that supports these ideas takes two paths: studies of the differences between spoken and written language and studies that contemplate or suggest the influence of speaking on writing. In the former path, Horowitz and Newman (1964) in proof of their hypotheses found that "speaking produces significantly more material (words, phrases, and sentences) per unit time" than writing (p. 646). Speaking also produces "significantly more ideas and subordinate ideas" but is "far less efficient in terms of number of ideas produced per word per unit time . . . "(p. 646). As might be thought, this greater level of production involves, in turn, greater repetition "partially for emphasis and partially for elaboration," but it also produces greater disjointedness: "A tremendous amount of new material is produced by virtue of the fact that the subject does not remember precisely what he said 1 minute ago and . . . apparently feels less compulsion for good form and literary nicety in speaking"(p.647). Perhaps the most signifcant finding is that, under their experimental conditions, "speaking is looser but not vaguer as has been reported in the literature"(their emphasis, p. 647). Horowitz and Newman found finally that speaking is "richer, fuller, and more precise -- the last because of elaboration" (my emphasis, p. 647).

These findings do much to encourage answers to several of the questions generating this research, but particularly the one that asks how writing pedagogies can capitalize on established speaking abilities. It becomes clearer from Horowitz and Newman and from the findings of the present research that close analysis of spoken language can act as a productive heuristic for solving problems of vapid, imprecise student writing.

Other investigations along this path have produced supportive evidence for greater verbal felicity in speaking than in writing. Loban's study (1976) is a hallmark, because he kept track of a large sample (N=400) over twelve years of elementary and secondary schooling and found that in certain syntactic areas (number of subordinate clauses and nonfinite verbs) poor writers showed greater felicity in speaking than in writing. Cayer and Sacks (1979) came to similar conclusions in their study of community college students, and further suggested that the "adult basic writer [relies to a large degree] on the oral repertoire when communicating in the written mode"(p. 127). This would seem, however, to keep company with the somewhat negative findings of Collins(1981) who concluded that the writing of "unskilled writers .. . contains inexplicit meanings, or semantic abbreviations characteristic of conversations in which the listener is familiar with the situational and cultural contexts of the monologue"(my emphasis, p.1). This in concert with his work with Williamson (1981), indicates a need to look at the degree of semantic transfer that exists between speaking and writing on the same topic (another concern of the present research). But by and large, studies comparing oral and written language have not concentrated on semantic elements (as Horowitz and Newman have so clearly done), nor have they used a consistent method of measuring and interpreting the data. As Shafer (1981) points out,

> All we learn from these studies is that one particular type of speech (dyadic conversation, prepared speech, or whatever) of a particular sample of the population differs in certain ways from the written sample to which it is compared. Usually the researchers try to control for the influence of topic by having the subjects write on the same topics they speak on, but some do not. These latter studies

> therefore not only tell us nothing useful about universal differences between speaking and writing, they also don't tell us whether the discovered difference between the particular types of spoken and written texts compared in the experiment are attributable to differences in mode or to some other factor in the context of situation (pp.12-13).

Shafer goes on to call for more integrated examination of spoken expression (in various modes) and for researchers "to abandon the opposition between speech and writing and let other oppositions -- dialogue vs. monologue, planned vs. unplanned discourse -- guide their research efforts"(p. 13). He points out that past researchers have drawn too much upon "[a] narrow sentence-based perspective . . . for definitions of the features they look for," and thus implies there is still more to be learned from comparing oral and written expression, especially in the area of semantics.

It should be kept in mind, however, that past research has also pointed to the potential dangers of relying too heavily on oral expression as a guide to what should happen in writing. Kroll (1981) in qualifying the benefits of using oral exposition as a foundation for writing, points specifically to Harpin's assessment (1976) of oral preparation: "The potential danger in the method is that, carried on for too long, it may obstruct the development of individual imagining in much the same way as strongly teacher-directed discussion does" (quoted in Kroll, p.46). Harpin notes more specifically that in his study of junior high school students, there were few appreciable differences in transactional writing with or without "full verbal [oral] preparation," and that samples with preparation were "less mature, judged by the language measures [they] were examining" (quoted in Kroll, p.47).

The main worry here is that poor writers will not understand and learn proper "differentiation" (as Kroll calls it) between the needs of the two modes, which would tend to support the still lingering claims that adults' poor writing is simply "talk written down." However, the results of the present research indicate that even among demonstrably poor writers reliance on an "oral repertoire" (Cayer and Sacks, 1979) is less than might be thought, and further that with regard to semantics, rather than syntax, a continuing utility in drawing upon "oral language resources" exists even into adulthood. Though Kroll is justified in saying that we need to wean poor writers away from "consolidation" of oral and written language skills to "kinds of writing which involve increasingly explicit and autonomous discourse" (p. 52), if we were to jettison evaluation of oral competencies completely, we would miss an opportunity to point out semantic strengths in the oral mode that could be beneficially transferred to the written mode.

This second path of research, studies that contemplate the influence of speaking on writing, has as its progenitor in Robert

Zoellner's provocative "Talk-Write: A Behavioral Pedagogy for Composition" in College English for January, 1969. Zoellner spends much of his time debunking what he calls the think-write "instrumental metaphor," the traditional structure by which teachers of writing admonish their students simply to think carefully and clearly first and then to write, thus, presumably, to demonstrate in their writing the clear thinking they have already done. Zoellner calls this approach "not only our great metaphor. It may also be our great myth"(p.270). Instead, he borrows heavily from behavioral psychology and the work of students like Skinner, Gantt, and Luria to suggest that gaining a desired response (good writing) can be effected by approximating that end through other behavior (speaking) that has already proven at least reasonably successful. Zoellner bases this "principle of intermodal transfer" on two assumptions: 1. students are better at talking than writing because they have had more practice, and 2. they have the ability to improve their writing because, in trying to do so, they are already using a learned skill, talking (p. 300). By suggesting the application of this, along with other principles ("intermodal integration," "sociovocal reinforcement," and "autogenetic specification"[p. 301]), Zoellner reinforces the approaches of others like Gantt and Luria that call for the "absolute necessity of not divorcing talk from writing" (p. 304). To do this is to overlook, perhaps even deny, a fertile resource available to all student writers: their own experiences and personal repertoires of verbal skills. The result, in Zoellner's view, is to encourage the already abundant banality of student writing: "English teachers . . . have methodically if unconsciously destroyed [the connection] between writing and the real world the student actually knows, so that he finally develops a genuinely tragic proficiency in writing themes made up of words-for-teacher which are seldom if ever words-for-me"(p.307).

As compelling as Zoellner's theory is, in the 14 years since its articulation, remarkably little direct substantiation or application of it has taken place. It probably had some indirect influence on developmental pedagogies of writing (especially on prewriting and free writing exercises) that emphasize students' abilities to find their own "voices," but with the exceptions of investigators like Radcliffe (1972), Meyers (1969), and Miller and Rinderer (1980), it has had seemingly very little direct influence. And even in the latter cases virtually no empirical support has been offered. Radcliffe (1972) and Miller and Rinderer (1980) were helpful in establishing theoretical and applied models for a talk-write pedagogy, but it has not been tried or tested, except in Meyers's work (1979), which involved a fairly small sample (N=58) and did not employ the important elements of tape-recording conversations and subsequent listening analysis to point out existing or potential theses, logical relationships, and methods of development or elaboration.

It was the ultimate intent of this research, then, to gather empirical evidence to demonstrate the differences in production between speaking and writing, to test the hypothesis that the writing of subjects who have spoken about a particular topic in a controlled situation will be qualitatively superior to the writing of subjects who have not, and to determine the degree of semantic transfer from prior oral exposition to subsequent written exposition on the same topic. Armed with this evidence, new pedagogies based upon the speak-write concept could be suggested and developed, and in turn tested for empirical validity.

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METHOD

Overview

One hundred remedial writing students at Washington State University were evenly divided into control (Writeonly) and experimental (Speakwrite) groups. All subjects watched a 10-minute, color documentary on distribution of the world's resources. The control subjects were asked to write an essay for 30 minutes on the subject of the film, were paid for their participation, and were dismissed. The experimental group were interviewed individually for 30 minutes on the subject of the film and their conversations were tape-recorded. They were then asked to write an essay for 30 minutes on the same topic the control group had written on. They were also paid for their participation and were then dismissed.

Transcripts were made of all responses, both oral and written. Four raters counted certain quantifiable variables: words, T-units, subordinate clauses (noun, adjectival, adverbial), and propositions. Ten evaluators read the written transcripts and made judgments of quality on a holistic basis. All ratings and evaluations of all responses for both groups were finally subjected to statistical analyses to determine the significance of differences in performance between the groups.

TESTING PROCEDURE

Subjects

One hundred freshman remedial writing students from five remedial writing classes, already in their eighth week of instruction at Washington State University, were asked to participate in the experiment. All subjects had registered for remedial writing, because their verbal composite scores on the Washington Pre-College Test had fallen at or below one standard deviation below the mean, or they had been otherwise identified (through teacher-referral or self-referral) as needing the course.

The entire N was randomly divided into a control group of 50 (Writeonlys), who wrote immediately in response to a film stimulus, and an experimental group of 50 (Speakwrites), who were first interviewed individually on the subject of the film and were then asked to write. Anonymity was guaranteed, though a coding system identified group, sex, and ethnic category, and subjects' responses were not subject to review for any purposes of evaluating academic achievement. Their participation was voluntary, and all gave their informed consent and finished their designated parts in the experimental procedure. All subjects were paid for their participation.

The subjects were divided almost evenly by sex: 52 males and 48 females. The general demographics of Washington State University, however, provided for an uneven distribution of ethnic categories: 86 Anglo, 1 (one) Asian surnamed, 8 Black, and 5 Hispanic surnamed.

Interviewers

To elicit the oral responses from the experimental group, we hired 13 graduate students to act as interviewers and trained them in two, twohour sessions. In the first session, the interviewers saw the film the subjects would see, were given a set of questions to ask, and were schooled in some of the fundamentals of good interviewing. The questions asked are as follows:

1. Many Americans consume twice the amount of protein they need each day through meat and other products. Do you feel this consumption is necessary? Why?

2. The film states that one pound of food in four goes into the garbage. How do you explain this waste?

3. The film states that the United States has only six percent of the world's population, and yet uses 50% of the world's resources. Is that statement an argument against extravagance or an argument for our high standard of living? Why?

4. In the film, Americans seem to overeat, and starvation seems to be limited to Third World countries. Yet the film later adds that starvation is also a problem in this country. How and why is it a problem in this country?

5. Is it possible to feed all of the world's hungry? Should we, as a country, take that responsibility upon ourselves?

We told the interviewers in using these questions to engage the subject in conversations, not simply to ask them and to wait for responses. They were also instructed to encourage elaboration, showing confusion or lack of complete understanding through both verbal and physical actions: "Gee, I don't quite know what you mean," or "Could you give me another example of how that works?" and nods of the head or quizzical looks. Interviewers were to permit digressions but not to encourage them. They were always to get back to the subject of the film as the focus of their conversations.

In the second session, interviewers held mock interviews of the experimenters and of each other. We made every effort to approximate the kinds of responses interviewers would get from prospective subjects: gregarious but digressive, gregarious but to the point, reticent but to the point, and just reticent, even hostile. The interviews were taperecorded, played back, and analyzed for strengths and weaknesses of performance. We had set a limit of 30 minutes for each interview, but told interviewers that if the conversation seemed to be at an end before that time not to try to belabor it. They could turn off their tape recorders, which were to be identified as such and in plain view but not obtrusive or a focal point, and continue talking until the 30 minutes elapsed. (No interviewer had much trouble taking up the prescribed time with substantive talk, though not always did the substance have to do with the topic of the film. The latter situation, however, was not the rule.) Generally, conversations on the subject of the film lasted the full 30 minutes.

At the end of the training sessions, interviewers were assigned separate, private spaces and tape recorders to conduct their interviews.

Stimulus/Response Sequence

To constitute the N of 100, we conducted five testing sessions at regular class times: two at 8:00 a. m., two at 10:00 a. m. on a Tuesday and a Thursday, and one at 2:00 p. m. on the same Thursday. We told the subjects about the nature of the research, assigned code numbers to each, and passed out consent forms, which were signed and returned. Then we showed the film "Food for a Small Planet" (Richter McBride Productions, 1976), a rather heavy-handed, but short, documentary on the uneven distribution and consumption of the world's resources, but especially as they are manifested in the United States and in Third World countries. We chose this film, since we wanted in a short time to stimulate factual and affective responses. It was 10 minutes long, in color, and had a powerful slant, especially with regard to the unequal abundance and deprivation of food resources in the United States and Africa.

Those subjects with an "X" in their code numbers were asked to proceed to the interviewing sites; those with a "Y" in their code numbers remained and were told to write an essay on the following topic:

> In the film "Food for a Small Planet" the general concern is overconsumption and unequal distribution of resources. Discuss the role the United States seems to have in this problem. Make sure to write specifically about what Americans consume, how much they think they need to consume, how much they throw away, whether consumption is equal in this country, and how it is seen as unequal in the world at large.

We gave no special instructions other than that they should write for 30 minutes (when they would be stopped) and they should use the best techniques for writing they had learned or knew to that time. At the end of 30 minutes, we collected the essays, paid the subjects, and let them go.

The experimental group was treated according to the previously outlined experimental design. They were interviewed individually for 30 minutes, where their conversations were tape-recorded, and then returned to the original testing site, where they wrote essays under the same instructions and limitations as the control subjects had. They were ultimately paid for their participation and left.

ANALYSIS AND EVALUATION PROCEDURE

Rating (of quantifiable variables)

Four raters identified and counted the following variables: words, T-units, subordinate clauses (noun, adjectival, adverbial), and propositions (see later discussion on propositional analysis). The raters counted these variables on both oral and written responses first separately and then in pairs. In weekly meetings with the principal investigator, the pairs discussed any problems with the ratings and came to a concensus on the nature of certain variables and how they should be counted. These weekly meetings provided evidence that there was virtually no variation among raters when they rated essays for T-units, subordinate clauses, and number of words. Rating propositions caused some concern, but conventions were agreed upon (described below) and a system of double-checking was developed. Each essay was rated separately by two raters, who then conferred to discuss any discrepancies. Twenty percent of the essays were rated individually by all four raters, and then checked for discrepancies at weekly meetings. Essays causing particular concern were rated and discussed at weekly meetings.

It was considered superfluous to run a statistical analysis of the reliability on the raters, as a high degree of reliability was assured by means of this system of checks and conferences.

Because one of the controlling hypotheses of the research involved the difference in semantic value of written responses between the Write Onlys and the Speak/Writes, an extensive and rigorous analysis of propositions was undertaken. A full explanation of the method of analyzing propositions follows.

Propositional Analysis

At the beginning of the rating process, the raters and the principal investigator agreed upon the definition of a proposition as "any statement of perceptible meaning with an expressed or implied subject and predicate that does not manifest repetition of an earlier proposition." This definition was developed in order to provide a quantitative measure that would emphasize semantic, rather than syntactic, content. In this sense, our definition differs radically from Kintsch's (1974) definition of a proposition, which was formulated to test semantic recall and readability of writing, and emphasized the presence of nominals and non-copulative verbs. Our definition of a proposition is, however, similar to Horowitz and Newman's (1964) definition of an idea, which is "an utterance [intended to include both spoken and written expression] that expresses a thought in a meaningful, relevant, and unique way." Where Horowitz and Newman have considered irrelevant ideas under the rubric "ancillary ideas," elaborations as "subordinate," and have specified communicative and orientation signals, we have considered as propositions all meaningful utterances as described above. The problem of distinguishing propositions from syntactic measures was resolved in several ways. First, for the purposes of our study, syntactic measures (T-units, subordinate clauses) had to be expressed completely to be counted, whereas propositional count did not depend on complete expression. In this way, propositions were particularly differentiated from T-units. For example, the statement,

> Americans consume 50% of the world's resources, (x 2)

contains both one T-unit and one proposition. But a statement such as,

> Because there are many people out there who don't get anything to eat, (x 5)

contains one proposition, (the idea that there are starving people), but cannot be counted as a T-unit because there is no main clause.

Secondly, we agreed that syntactic structures that manifested semantic elaboration would not be counted as propositions. We defined an elaboration as an extension of a previous proposition that did not demonstrate a significant semantic addition to that proposition. Elaborations were identified in several areas, which will be discussed below.

I. Subordinate Clauses

A. Adjectival Clauses

Adjectival clauses are perhaps the most obvious form of semantic elaboration in that they function solely to modify, describe, or specify nominals. Because the semantic function of adjectives and adjectival clauses is essentially the same, it was decided that we would not count adjectival clauses as propositions because, by logical extension, if we were to count adjectival clauses, we would also have to count adjectives.

An exception to this occurs in the case of a non-standard use of an adjectival construct. For example, the statement,

> Americans do eat more which is considered standard, (x 6)

contains one T-unit and one adjectival clause. Had the subject written

> That Americans eat more is considered standard,

the statement might have been grammatically more pleasing, but the change to a complemented noun clause seems to alter the intended semantic value of the statement. A better, and semantically closer, rendition of the statement would be

> Americans do eat more. This is considered standard.

In the case of the statement as actually written, the raters decided to count one T-unit, one adjectival clause, and two propositions. Two propositions were counted because the subject seemed to be expressing two distinct ideas ("Americans eat more" and "That Americans eat more is considered standard") rather than elaborating. However, for the most part, adjectival clauses were not counted as propositions, unless (as in the previous example) there appeared to be a strong semantic justification to do so.

B. Noun Clauses

In this study, noun clauses were never counted as propositions. For the most part, noun clauses usually occurred after expressions such as "I think", "the film showed", "they said", "I wish", etc. There did not seem to be any semantic reason to analyze such expressions as separate propositions. For example, the statement,

> I think the farmers in our country would be in a great debt, (y 31)

could be analyzed as containing the ideas "I am thinking something" and "The something is that farmers in this country would be in a great debt." However, it seemed unnecessary to place semantic value on an expression that signals the subject's mental processes.

C. Adverbial Clauses

It was agreed that adverbial clauses of causation and condition should be counted as propositions for two reasons: first, such clauses particularly demonstrate an awareness of a relationship between the adverbial clause and the clause it modifies, and second, these two types of adverbial clauses significantly alter the semantic value of the clauses they modify.

1. Adverbial clauses of causation are identified by the following subordinating conjunctions: because, lest, since, as, whereas, for, in that, why, inasmuch as, so, that, so that, in order that, and such that. The action of the subordinate clause either results in, or has an effect upon, the action of the modified clause. For example,

> America tends not to think of other countries because we are living so fine. (x 17)

This statement contains one T-unit and one adverbial clause. It contains two propositions: (1) We are living so fine, which causes (2) us not to think of other countries. Not only does the statement contain two expressions, but the construct of the statement signals a relationship between the two expressions. For this reason, all adverbial clauses of causation were counted as propositions.

2. Adverbial clauses of condition are identified by the following subordinating conjunctions: if. . .then, when. . .then, unless, in case (that), provided that, and lest. In these constructions, the action of the modified clause is dependent upon the action of the subordinate clause. For example,

> If the whole world would stick together as one, then I think our problems would be solved. (y 32)

This statement contains one T-unit, one adverbial clause, one noun clause, and two propositions. The subject is implying (1) the whole world should stick together as one, and (2) this would solve our problems. As with adverbial clauses of causation, there are two distinct expressions that are being related through the construct of the statement.

The subordinating conjunction "when" causes some difficulties. In some cases, it is used to signal an adverbial clause of condition (similar to an if. . .then construction). The statement,

> Why does the United States consume so much when there are so many starving people?
> (x 29)

contains two propositions: (1) there are many starving people, and (2) the United States consumes a great amount. But the statement,

> When I was watching the film "Food for a Small Planet," it sure really made me think, (x 26)

contains only one proposition, as the subordinating conjunction "when," in this example, simply signals an adverbial clause of time.

3. The raters agreed not to count adverbial clauses of time as propositions because, by logical extension, adverbs of time (yesterday, tonight, etc.) would also have to be counted. However, certain adverbial clauses of time caused some concern. For example, the statement,

> One never knows how good it is until they witness something like what I just saw, (y 8)

contains two propositions, as the subordinating conjunction "until" is actually functioning conditionally, rather than temporally. As a result of such exceptions, it was decided that adverbial clauses of time, when they could not be reduced to a simple temporal phrase, would be counted as propositions.

4. Adverbial clauses of comparison, such as the one which appears in the statement,

> Americans think they need to consume more food than they really do need, (y 15)

were never counted as propositions. In such a construct, it is difficult to define more than one meaningful idea. Also, adverbial clauses like "they really do need," can easily be reduced to adverbial phrases (Americans think they need to consume more than the necessary amount), which would never, as defined, be counted as a proposition.

For similar semantic reasons, adverbial clauses of place, concession, and manner were not counted as propositions, unless there was a strong semantic justification to do so.

II. Prepositional Phrases

For the most part, prepositional phrases were not counted as propositions. The only exceptions were those prepositional phrases that demonstrated causation, separation, or exclusion. Since a proposition necessitates an expressed or implied subject and predicate, these prepositional phrases always implied a main clause, noun clause, or adverbial clause as the object of the preposition. The raters identified specifically phrases that began with "because of" and "instead of." Statements such as,

> People in other countries are starving to death because of lack of nutrition, (y 11)

and

> The grain is going to our meats and poultry instead of [to the] starving in Asia, (y 8)

both contain two propositions. The first shows a causal relationship between (1) people in other countries are starving to death, and (2) there is a lack of nutrition. The second implies arbitrary exclusion, stating (1) grain is going to our meat and poultry, and (2) it should be going to the starving in Asia. Such prepositional phrases do not constitute elaboration. They usually demonstrate some sort of relationship between two statements, and were therefore counted as separate propositions. III. Conjunctions and Lists

The raters agreed that if items connected by a coordinating conjunction (and, but, or, so, yet, still, where, etc.) were presented as members of a group or class of items, and a semantic distinction was not being made, then they were not to be counted as signaling separate propositions. For example, the statement,

> It didn't say how much they produce, consume, or waste, (x 9)

contains three propositions, since distinctions among activities is clear. The subject is commenting on the lack of information about (1) their production, (2) their comsumption, and (3) their waste. On the other hand, a statement such as,

> Why should we feed, clothe, and shelter them? (x 9)

contains one proposition. The three items are elements of the class of support or "help" activities, and in fact the construction "feed, clothe, and shelter" has become a cliche. Such constructions cast doubt on whether the subject sees a distinction among the members of a class of items.

However, if the class of items is signaled by the use of the word "other," it was agreed that it would be counted as a proposition, as it demonstrates the subject's awareness of classification. If the previous example statement had been written,

> We should provide food, clothing, shelter, and other forms of assistance to the poor people,

the raters would have counted two propositions: (1) we should provide forms of assistance, and (2) examples of these forms of assistance are food, clothing, and shelter. In other words, one proposition would be counted for expressing that certain items be provided, and another counted for identifying the class of things of which food, clothing, and shelter are members.

IV. Repetition

Katz (1977) claims that a change in wording or punctuation is justification for counting the repetition of an idea as a separate proposition. We decided that such a distinction limits repetition to those instances when the syntax enveloping one proposition is identical to another. We adopted a distinction similar to that of Horowitz and Newman (1964) with regard to repetition:

> There is a tendency for ideas to be restated, to be polished or refurbished, but to remain essentially the same ideas. Such expressions do not constitute additional ideas.

Therefore, we concluded that if the semantic value of a proposition was not unique from another proposition, it would not be counted.

In some cases, the syntax of two statements was very similar. Compare

> American people could save a life, (x 18)

and

> The United States could save lives. (x 18)

These statements occurred in the same essay, for repetition is only considered within an essay-- never among essays.

The second (and later) sentence really does not say anything different from the first, although the subjects and direct objects are slightly different. In this case, the first occurrence of the statement was counted as a proposition; the second was not.

At times, the wording of the sentences is radically different, but the meaning remains essentially the same. For example, compare

> Americans need to be more nutritionally educated, (x 28)

and

> They need to learn how much we need for a healthy diet. (x 28)

The second statement immediately follows the first in the essay, and is not much more than a restatement. One might argue that the second statement is an elaboration of the first, rather than a repetition, but in either case the second statement would not have been counted as a separate proposition.

Sometimes statements are syntactically similar but manifest separate propositions. For example, consider the statements,

> We Americans consume more protein in one day than necessary, (x 29)

and

> We as Americans consume way more than necessary. (x 29)

The first makes a statement about American consumption, but limits the discussion to the amount of protein consumed in the time of one day. The second speaks of consumption in general, not only of protein, and includes no time restriction. The semantic values of the statements are very different and each would be counted as a proposition, particularly in light of the context.

Additionally, it was agreed that if a proposition was repeated, but the repetition involved a causal or conditional relationship that was not originally apparent, then each proposition would be counted. For example, if the statement,

> Americans are greedy,

appeared in an essay first, and then later appeared as

> Americans will never help because they are greedy,

they would be counted as separate propositions. The first occurrence is the original statement and is counted as one proposition. The second occurrence, though repetitive, demonstrates a causal connection with the clause "Americans will never help," and because the same proposition is being used in a semantically different way, it would also be counted as a proposition (as well as the clause it is modifying).

By the aforementioned methods, we were able to define a proposition more clearly, in such a way that it would have some quantifiable semantic value, rather than merely reflect syntactic measures. In the analysis of transcripts of interviews, three other distinctions in locating and counting propositions had to be made. First, if the subject answered a question with a simple affirmative or negative, such answers were counted as propositions. For example,

Interviewer:	Do you think there are people in this country going hungry?
Subject:	Yeah. (x 15)

In this case, the subject is affirming the truth of the statement about hungry people in this country. The subject also had the option to deny the truth of the statement, and by making such a choice the subject seemed to be adopting the statement, whether affirmatively or negatively, as his own. To make clearer this distinction, those instances when the interviewer made a declarative statement (not a question) with which the subject agreed were not counted as propositions. For example,

Interviewer:	He doesn't think much of it and obviously neither do you.	
Subject:	No.	(x 6)

The ambiguity of the response seems to indicate that it was a signal of the subject's attention to the interviewer's statement, rather than any sort of evaluation of it.

Second, if a "false start" was immediately completed in some fashion, it was not counted as a proposition, even though it perhaps contained both a subject and a predicate. For example,

> I was, I mean, I, I always thought about it before. (x 42)

The expressions "I was" and "I mean" were not counted as propositions, as they appear to be a manifestation of the subject's search for words. If, however, the "false start" was not immediately completed, and if there existed both expressed or implied subject and predicate (which were not repetitions or elaborations), then the false start was counted as a proposition. For example, the statement,

> All that grain and they showed them. . . was that a head? (x 42)

contains two propositions. Although the second proposition interrupts the first, the first includes a subject, verb, and part of the direct object-- enough to count it as a proposition.

Third, the verbal "filler" that occurs frequently in spoken expression was not included in the proposition count, unless it seemed to have some semantic value. Expressions such as "you know," "I don't know," and "I mean" were generally not counted when they occurred. For example, the statement,

> Basically, you know, you know, just cook enough, just, you know, for the family. . . (x 5)

contains only one proposition. The excessive occurrence of "you know" adds nothing to the semantic value of the sentence. The expression "I don't know" was more difficult to analyze. If there was some sort of contextual evidence that the subject indeed did not know a response, then it was counted as a proposition; otherwise it was not. In the most obvious examples, if "I don't know" was the sole response to a question, it was counted as a proposition. If, as in the example,

> Interviewer: Where were those starving people?
>
> Subject: I don't know. Could be anywhere, (x 37)

the subject seemed not to know an answer, but was willing to guess, then it was assumed that the subject was reporting truthfully that he/she did not know an answer, and "I don't know" was counted as a proposition. On the other hand, if the subject expressed uncertainty, and then immediately expressed (with some certainty) a response, then the "I don't know" was not counted as a proposition. For example,

> Interviewer: What do you mean, different?
>
> Subject: I don't know. Sad. It was sad. (x 6)

The subject knew an answer to the question, but appeared to need time to think of it. In this case, it seems saying "I don't know" provided a temporary response while the subject thought of an answer. Such an expression, used in such a manner, would not be counted as a proposition.

Holistic Evaluation

Ten evaluators, four from the home institution and six from two other local institutions, were hired to make qualitative, holistic evaluations of the written responses of both the control and experimental groups. To qualify as evaluators, the ten had to hold advanced degrees and to have taught writing for at least five years.

In three separate meetings, the evaluators met with the experimenters to discuss and practice the evaluation procedure. It was based on six primary criteria:

1. ideas (number, sophistication, and originality)
2. support (amount of specific support brought to bear on ideas)
3. organization (clarity and execution)
4. diction (sophistication and correctness)
5. syntax (sophistication and variety)
6. audience awareness (acknowledgment of the needs of a reader).

A seventh criterion, correctness of mechanics, was evaluated separately. Since we believed a majority of responses would be seriously flawed mechanically, we thought that overall evaluations of the other criteria might be unduly, negatively influenced by including mechanics.

In addition to discussions of the criteria, evaluators studied and discussed three model responses (drawn from extra responses not included in the original N). The experimenters determined these essays to fall at the low boundary[1] of three ranges (low, medium, high) on a modified Deiderich scale of 1-8 (lowest to highest).[2] Evaluators were told to use these boundary essays as guides to evaluating their groups of responses on the established scale. They also read and evaluated three other responses (also taken from extras outside of the original N) as practice in the process. Scores were recorded and extremes in either direction were noted and discussed (see Appendix 1 for instructions given to evaluators and copies of the boundary essays.)

Ultimately, evaluators were required to assign a numerical value of 1-8 (lowest to highest) as an overall rating of the six criteria for each subject's response and a separate value of 1-8 for mechanics. Each evaluator read 40 of the 100 written responses (mixed from both control and experimental groups) so that each response was read by four evaluators, and each evaluator scored at least seven essays in common with every other evaluator. Based upon the overall and mechanics scores, an analysis of reliability provided a Cronbach's alpha value of .83088 for the overall scores, and a value of .86751 for the mechanics, both well within the acceptable level of .80.

[1] The use of boundary essays to assist holistic evaluation is customary and has been used repeatedly in writing studies (Cooper and Odell, 1977) to encourage as much objectivity as possible. The three responses, though ultimately not included in the original N, came from subjects whose Washington Pre-College Test scores fall within one standard deviation below the mean.

They were necessary to point to manifestations of the evaluation scale, and though they were not perfect examples (it would be extremely difficult to find perfection in such matters), we did discuss with the evaluators the virtues and defects of the responses as boundaries.

[2] The eight point scale is desirable in holistic rating for a couple of reasons. First, it does not provide an absolute middle score to which timid or insecure evaluators might be attracted. Four and six point scales have been used for the same reason, but evaluators have complained that they do not provide enough room for discrimination. Deiderich uses, in effect, a ten point scale, divided into five basic categories, but that creates a middle. Therefore, an eight point scale seemed reasonable: discriminating enough but without a middle.

Also, the scale, when used in conjunction with the boundary essays (designated as low 7, low 5, and low 3), allows evaluators the flexibility of giving 6's and 8's, 1's and 2's as well as all scores in between. The only stipulations were that the boundary essays be used as guides, and evaluators understood that within any randomly selected group of 40 responses, it would be highly unlikely that some range of quality (1 to 8) not exist.

We know of course that as a sample size increases so does the likelihood that the range of scores will approximate a normal distribution. And we found that to be true in this case. Of the 400 possible scores (N = 100; each essay was read by four evaluators), the distribution occurred as follows:

Score (Rating)	Frequency
8	20
7	41
6	57
5	66
4	83
3	73
2	39
1	21
	400

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RESULTS

As indicated under METHOD, the data were treated in two ways: rating (essentially counting) of quantifiable variables and evaluating (determining quality) on a holistic basis. Both the ratings and evaluations of all dependent variables were subjected to analyses of variance (ANOVAs) from the Statistical Package for the Social Sciences (SPSS) to determine the significance of any differences between groups (Speakwrite, or experimental group, and Writeonly, or control group), among sessions (two at 8:00 A.M., two at 10:00 A.M. and one at 2 P.M.), between sexes, and among ethnic categories (Anglo, Asian surnamed, Black, and Hispanic surnamed). All the data for the variables of words, T-units, subordinate clauses (noun, adjectival, adverbial), and propositions are reported below.

It should be noted that counts of the various quantifiable variables from the oral transcripts are not provided here, since it is obvious that any subject could say more in 30 minutes than he or she could write, thus rendering strict counts of the variables practically meaningless. What is of interest, however, is the degree of semantic transfer from oral responses to written responses, a significant consideration, given the controlling hypotheses of the research, and one that is presented in the following section, DISCUSSION.

Another peculiarity of the results is the separation of ANOVAs reporting on individual testing sessions into "All sessions considered" and "Session 5 excluded." We orignially included an extra write-only session, or control group, of 11 subjects at 2 P.M. to make up for the missing number of control subjects in the other sessions. Since that session wrote comparatively better than other sessions in most cases, we thought it best to analyze the responses both including and excluding Session 5. Levels of signifcance are mentioned, however, only on ANOVAs that exclude Session 5.

Also, because our population was so unbalanced by ethnic category (86 Anglo, 5 Hispanic surnamed, 8 Black, 1 Asian surnamed), we could determine no significance at all for any of the differences among categories. Consequently, the ANOVAs are reproduced below without comment.

In addition, Pearson correlations were run on the raw data in order to determine to what degree and in which direction ratings of dependent, quantifiable variables correlated with holistic evaluations. Also, a Pearson correlation was run on the relationship between holistic evaluations and the subjects' verbal composite scores on the Washington Pre-College Test. However, only those relationsips that show moderate to strong correlations are reported below.

Words

The most obvious measure of quantity of written production is the number of words (W). Below are the ANOVA tables for word counts (overall lengths of essays) for groups, sessions, sexes, and ethnic groups.

```
ANOVA:  W by Group by Sess (a)  all sessions considered

                          SUM OF                   MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F      OF F

Main Effects             346231.313       5       69246.250    10.663   0.000
     Group                51720.910       1       51720.910     7.964   0.006
     Sess                343095.313       4       85773.813    13.208   0.000
2-Way Interactions        41539.813       3       13846.602     2.132   0.102
     Group    Sess        41539.797       3       13846.598     2.132   0.102
Explained                387771.125       8       48471.391     7.464   0.000
Residual                 590976.625      91        6494.246

Total                    978747.750      99        9886.340
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  W by Group by Sess (b) Session 5 excluded

                          SUM OF                   MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F      OF F

Main Effects             135398.938       4       33849.734     5.428   0.001
     Group                51720.906       1       51720.906     8.294   0.005
     Sess                 81458.625       3       27152.875     4.354   0.007
2-Way Interactions        41539.750       3       13846.582     2.220   0.092
     Group    Sess        41539.770       3       13846.590     2.220   0.092
Explained                176938.688       7       25276.953     4.053   0.001
Residual                 505126.813      81        6236.133

Total                    682065.500      88        7750.742
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  W by Group by Sess (a)  all sessions considered


               VALUE
VARIABLE       LABEL       SUM            MEAN         STD DEV      VARIANCE    N

For Entire Population      34812.0000     348.1200     99.4303      9886.3693   100

Group         Speakwrite   17686.0000     353.7200     88.8666      7897.2669   50
     Session 1              3879.0000     298.3846     83.4321      6960.9231   13
     Session 2              4453.0000     371.0833     73.4494      5394.8106   12
     Session 3              4171.0000     347.5833    100.1285     10025.7197   12
     Session 4              5183.0000     398.6923     72.8244      5303.3974   13

Group         Writeonly    17126.0000     342.5200    109.6049     12013.2343   50
     Session 1              3020.0000     274.5455     69.0918      4773.6727   11
     Session 2              2071.0000     258.8750     55.9245      3127.5536    8
     Session 3              3850.0000     350.0000     93.3402      8712.4000   11
     Session 4              2919.0000     324.3333     62.8271      3947.2500    9
     Session 5              5266.0000     478.7273     92.6554      8585.0182   11

Total Cases = 100
```

Without Session 5, the Speakwrites as a whole wrote almost 17 per cent more words than the Writeonlys, and Speakwrites from individual sessions, except for those from Session 3, wrote a range of 30 percent more words (Session 2) to 8 per cent more words (Session 1). These findings are significant to the $p < .005$ and $p < .007$ levels respectively.

```
ANOVA:  W by Group by Sex


                          SUM OF                   MEAN                   SIGNIF
SOURCE OF VARIATION       SQUARES         DF       SQUARE         F       OF F

Main Effects              63988.488       2        31994.242      3.477   0.035
     Group                 4333.629       1         4333.629      0.471   0.494
     Sex                  60852.488       1        60852.488      6.613   0.012
2-Way Interactions        31401.949       1        31401.949      3.413   0.068
     Group      Sex       31401.984       1        31401.984      3.413   0.068
Explained                 95390.438       3        31796.813      3.456   0.019
Residual                 883357.313      96         9201.637

Total                    978747.750      99         9886.340
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  W by Group by Sex

               VALUE
VARIABLE       LABEL         SUM           MEAN        STD DEV      VARIANCE      N

For Entire Population        34812.0000    348.1200     99.4302      9886.3693   100

Group          Speakwrite    17686.0000    353.7200     88.8666      7897.2669    50
     Sex         Male         9379.0000    347.3704     93.6849      8776.8575    27
     Sex         Female       8307.0000    361.1739     84.3158      7109.1502    23

Group          Writeonly     17126.0000    342.5200    109.6049     12013.2343    50
     Sex         Male         7503.0000    300.1200     90.3107      8156.0267    25
     Sex         Female       9623.0000    384.9200    112.3640     12625.6600    25

Total Cases = 100
```

Although the difference in production of words by sex between groups was not significant, females as a whole wrote more words than males: almost 4 per cent more for the Speakwrites and 22 per cent more for the Writeonlys (p < .02). Female Writeonlys, however, produced 6 per cent more words than the female Speakwrites, whereas the reverse was true of males, the Speakwrites producing 13 per cent more words than the Writeonlys.

```
ANOVA:  W by Group by Ethnic

                          SUM OF                       MEAN                    SIGNIF
SOURCE OF VARIATION       SQUARES        DF           SQUARE          F        OF F

Main Effects              49156.121       4         12289.027       1.242     0.299
     Group                 3707.658       1          3707.658       0.375     0.542
     Ethnic               46020.121       3         15340.039       1.550     0.207
2-Way Interactions         9456.711       2          4728.355       0.478     0.622
     Group  Ethnic         9456.707       2          4728.352       0.478     0.622
Explained                 58612.875       6          9768.813       0.987     0.438
Residual                 920134.875      93          9893.922

Total                    978747.750      99          9886.340
     100 cases were processed
        0 cases (o.o pct.) were missing
```

```
BREAKDOWN:  W by Group by Ethnic

              VALUE
VARIABLE      LABEL        SUM              MEAN         STD DEV      VARIANCE    N

For Entire Population      34812.0000       348.1200     99.4302      9886.3693  100

Group         Speakwrite   17686.0000       353.7200     88.8666      7897.2669   50
     Anglo                 15142.0000       360.5238     90.8537      8254.4019   42
     Hispanic               1353.0000       338.2500     80.0474      6207.5833    4
     Black                   890.0000       296.6667     83.2666      6933.3333    3
     Asian                   301.0000       301.0000      0.0            0.0       1

Group         Writeonly    17126.0000       342.5200    109.6049     12013.2343   50
     Anglo                 15514.0000       352.5909    110.5240     12215.5497   44
     Hispanic                220.0000       220.0000      0.0            0.0       1
     Black                  1392.0000       278.4000     76.4022      5837.30000   5

Total Cases = 100
```

T-Units

Another more refined measure of quantity is the designation of syntactic units, or T-units (T)(Hunt, 1965), and their length, or words per T-unit (WT). Following are the ANOVAs and their breakdowns for groups, sessions, sex, and ethnic categories.

```
ANOVA:  T by Group by Sess  (a)  all sessions considered

                         SUM OF                 MEAN                   SIGNIF
SOURCE OF VARIATION      SQUARES       DF       SQUARE        F        OF F

Main Effects             1592.787       5       318.557     5.567      0.000
     Group                465.986       1       465.986     8.144      0.005
     Sess                1488.747       4       372.187     6.504      0.000
2-Way Interactions        177.980       3        59.327     1.037      0.380
     Group    Sess        177.980       3        59.327     1.037      0.380
Explained                1770.770       8       221.346     3.868      0.001
Residual                 5207.152      91        57.221

Total                    6977.922      99        70.484
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  T by Group by Sess (b)  Session 5 excluded


                          SUM OF                       MEAN                    SIGNIF
SOURCE OF VARIATION       SQUARES          DF          SQUARE          F       OF F

Main Effects               765.413          4          191.353       3.658     0.009
     Group                 465.985          1          465.985       8.907     0.004
     Sess                  294.635          3           98.212       1.877     0.140
2-Way Interactions         177.980          3           59.327       1.134     0.340
     Group    Sess         177.980          3           59.327       1.134     0.340
Explained                  943.395          7          134.771       2.576     0.019
Residual                  4237.531         81           52.315

Total                     5180.926         88           58.874

     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN: T by Group by Sess (a) all sessions considered


                 VALUE
VARIABLE         LABEL          SUM            MEAN        STD DEV       VARIANCE     N

For Entire Population        2500.0000      25.0000      8.3955       70.4848     100

Group           Speakwrite   1301.0000      26.0200      8.3115       69.0812      50
     Session 1                294.0000      22.6154      8.5979       73.9231      13
     Session 2                328.0000      27.3333      5.5650       30.9697      12
     Session 3                315.0000      26.2500     11.2745      127.1136      12
     Session 4                364.0000      28.0000      6.6833       44.6667      13

Group           Writeonly    1199.0000      23.9800      8.4382       71.2037      50
     Session 1                216.0000      19.6364      6.8158       46.4545      11
     Session 2                145.0000      18.1250      5.4363       29.5536       8
     Session 3                272.0000      24.7273      5.2171       27.2182      11
     Session 4                201.0000      22.3333      4.0620       16.5000       9
     Session 5                365.0000      33.1818      9.8470       96.9636      11

Total Cases = 100
```

Without Session 5, the Speakwrites produced almost 23 per cent more T-units than the Writeonlys as a whole (p < .01), though the differences among sessions between groups were not significant. All Speakwrites from each session, however, wrote more T-units than their Writeonly counterpartrs, ranging from 51 percent more (Session 2) to 6 per cent more (Session 3).

```
ANOVA:  T by Group by Sex

                           SUM OF                     MEAN                  SIGNIF
SOURCE OF VARIATION        SQUARES       DF           SQUARE        F        OF F

Main Effects                429.369       2           214.684     3.206     0.045
     Group                  119.113       1           119.113     1.779     0.185
     Sex                    325.329       1           325.329     4.858     0.030
2-Way Interactions          119.942       1           119.942     1.791     0.184
     Group     Sex          119.942       1           119.942     1.791     0.184
Explained                   549.313       3           183.104     2.734     0.048
Residual                   6428.609      96            66.965

Total                      6977.922      99            70.484
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  T by Group by Sex

              VALUE
VARIABLE      LABEL        SUM           MEAN        STD DEV     VARIANCE    N

For Entire Population      2500.0000     25.0000     8.3955      70.4848    100

Group         Speakwrite   1301.0000     26.0200     8.3115      69.0812     50
     Sex         Male       685.0000     25.3704     8.8324      78.0114     27
     Sex         Female     616.0000     26.7826     7.7808      60.5415     23

Group         Writeonly    1199.0000     23.9800     8.4382      71.2037     50
     Sex         Male       527.0000     21.0800     5.9576      35.4933     25
     Sex         Female     672.0000     26.8800     9.6104      92.3600     25

Total Cases = 100
```

As with word production, there was no significant difference by sex between groups, but again females produced more T-units than males: 5 per cent more for the Speakwrites and 21 per cent for Writeonlys ($p < .03$). Male Speakwrites produced 17 per cent more T-units than male Writeonlys, whereas the results for females from both groups were almost identical.

```
ANOVA:  T by Group by Ethnic

                             SUM OF                 MEAN                SIGNIF
SOURCE OF VARIATION          SQUARES        DF      SQUARE      F       OF F

Main Effects                 429.340         4      107.335     1.525   0.201
     Group                   121.063         1      121.063     1.720   0.193
     Ethnic                  325.300         3      108.433     1.541   0.209
2-Way Interactions             3.457         2        1.728     0.025   0.976
     Group  Ethnic             3.457         2        1.728     0.025   0.976
Explained                    432.797         6       72.133     1.025   0.414
Residual                    6545.125        93       70.378

Total                       6977.922        99       70.484
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  T by Group by Ethnic

               VALUE
VARIABLE       LABEL        SUM            MEAN       STD DEV     VARIANCE    N

For Entire Population       2500.0000      25.0000    8.3955      70.4848   100

Group          Speakwrite   1301.0000      26.0200    8.3115      69.0812    50
     Anglo                  1125.0000      26.7857    8.4839      71.9774    42
     Hispanic                 85.0000      21.2500    6.0759      36.9167     4
     Black                    66.0000      22.0000    8.8882      79.0000     3
     Asian                    25.0000      25.0000    0.0          0.0        1

Group          Writeonly    1199.0000      23.9800    8.4382      71.2037    50
     Anglo                  1084.0000      24.6364    8.5238      72.6554    44
     Hispanic                 17.0000      17.0000    0.0          0.0        1
     Black                    98.0000      19.6000    7.0922      50.3000     5

Total Cases = 100
```

```
ANOVA:  WT by Group by Sess (a) all sessions considered


                             SUM OF                  MEAN                SIGNIF
SOURCE OF VARIATION          SQUARES       DF        SQUARE       F      OF F

Main Effects                  17.410        5         3.482     0.404    0.845
     Group                     6.024        1         6.024     0.699    0.405
     Sess                      6.496        4         1.624     0.188    0.944
2-Way Interactions             4.900        3         1.633     0.189    0.903
     Group    Sess             4.900        3         1.633     0.189    0.903
Explained                     22.309        8         2.789     0.323    0.955
Residual                     784.782       91         8.624

Total                        807.092       99         8.152
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  WT by Group by Sess (b) Session 5 excluded


                             SUM OF                  MEAN                SIGNIF
SOURCE OF VARIATION          SQUARES       DF        SQUARE       F      OF F

Main Effects                   8.382        4         2.096     0.288    0.885
     Group                     6.026        1         6.026     0.829    0.365
     Sess                      2.618        3         0.873     0.120    0.948
2-Way Interactions             4.901        3         1.634     0.225    0.879
     Group    Sess             4.901        3         1.634     0.225    0.879
Explained                     13.283        7         1.898     0.261    0.967
Residual                     588.694       81         7.268

Total                        601.977       88         6.841
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  WT by Group by Sess (a) all sessions considered

               VALUE
VARIABLE       LABEL       SUM            MEAN        STD DEV       VARIANCE     N

For Entire Popluation      1439.7659      14.3977     2.8553        8.1525      100

Group        Speakwrite     703.3614      14.0672     2.5251        6.3764       50
     Session 1              179.3696      13.7977     2.5533        6.5195       13
     Session 2              164.6400      13.7200     1.9979        3.9915       12
     Session 3              170.1492      14.1791     3.4400       11.8335       12
     Session 4              189.2027      14.5541     2.1313        4.5424       13

Group        Writeonly      736.4045      14.7281     3.1420        9.8722       50
     Session 1              160.6290      14.6026     2.8958        8.3859       11
     Session 2              119.4123      14.9265     3.1592        9.9806        8
     Session 3              157.1843      14.2895     3.2336       10.4565       11
     Session 4              131.4029      14.6003     1.7172        2.9487        9
     Session 5              167.7760      15.2524     4.4282       19.6088       11

Total Cases = 100
```

All that can be said about length of T-units (words per T-unit or WT) by group and session is that the Writeonlys generally produced slightly longer T-units (about 3 per cent longer), though no significance could be demonstrated.

```
ANOVA:  WT by Group by Sex

                          SUM OF                   MEAN                    SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F         OF F

Main Effects               11.141         2         5.570       0.674      0.512
     Group                 10.771         1        10.771       1.304      0.256
     Sex                    0.227         1         0.227       0.027      0.869
2-Way Interactions          3.046         1         3.046       0.369      0.545
     Group      Sex         3.046         1         3.046       0.369      0.545
Explained                  14.186         3         4.729       0.573      0.634
Residual                  792.906        96         8.259

Total                     807.092        99         8.152
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  WT by Group by Sex

                VALUE
VARIABLE        LABEL         SUM          MEAN       STD DEV     VARIANCE     N

For Entire Population         1439.7659    14.3977    2.8553      8.1525      100

Group           Speakwrite     703.3614    14.0672    2.5251      6.3764       50
     Sex         Male          382.9826    14.1845    2.2877      5.2337       27
     Sex         Female        320.3788    13.9295    2.8249      7.9799       23

Group           Writeonly      736.4045    14.7281    3.1420      9.8722       50
     Sex         Male          362.6552    14.5062    2.9171      8.5093       25
     Sex         Female        373.7493    14.9500    3.3976     11.5440       25

Total Cases = 100
```

Male Speakwrites produced longer T-units than female Speakwrites, but the reverse was so (though only slightly) for the Writeonlys. Differences were not significant.

```
ANOVA:  WT by Group by Ethnic

                           SUM OF                    MEAN                   SIGNIF
SOURCE OF VARIATION        SQUARES        DF         SQUARE        F        OF F

Main Effects                27.825         4          6.956      0.846      0.499
     Group                  12.417         1         12.417      1.511      0.222
     Ethnic                 16.911         3          5.637      0.686      0.563
2-Way Interactions          14.956         2          7.478      0.910      0.406
     Group  Ethnic          14.956         2          7.478      0.910      0.406
Explained                   42.781         6          7.130      0.368      0.522
Residual                   764.311        93          8.218

Total                      807.092        99          8.152
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  WT by Group by Ethnic

              VALUE
VARIABLE      LABEL        SUM            MEAN       STD DEV     VARIANCE     N

For Entire Population      1439.7659      14.3977    2.8553      8.1525     100

Group          Speakwrite   703.3614      14.0672    2.5251      6.3764      50
     Anglo                  583.7060      13.8978    2.3423      5.4862      42
     Hispanic                65.8841      16.4710    4.2396     17.9745       4
     Black                   41.7314      13.9105    1.5942      2.5416       3
     Asian                   12.0400      12.0400    0.0         0.0          1

Group          Writeonly    736.4045      14.7281    3.1420      9.8722      50
     Anglo                  648.9441      14.7487    3.2244     10.3969      44
     Hispanic                12.9412      12.9412    0.0         0.0          1
     Black                   74.5192      14.9038    2.8857      8.3272       5

Total Cases = 100
```

Subordinate Clauses

As another measure of syntactic differences, we counted the total number of subordinate clauses (CSUM), the number of subordinate clauses per T-unit (CLRATE), the individual numbers of noun clauses (NC), adjectival clauses (AJC), and adverbial clauses (AVC). In addition, we determined the proportions of noun clauses (NCPRO), adjectival clauses (AJCPRO), and adverbial clauses (AVCPRO) for all written responses as well as oral transcripts. Following are the ANOVAs and their breakdowns for groups, sessions, sex, and ethnic categories.

```
ANOVA:  CSUM by Group by Sess (a) all sessions considered

                        SUM OF                   MEAN                SIGNIF
SOURCE OF VARIATION     SQUARES        DF        SQUARE       F      OF F

Main Effects            1768.957        5        353.791     9.338   0.000
     Group               327.217        1        327.217     8.637   0.004
     Sess               1749.597        4        437.399    11.545   0.000
2-Way Interactions        48.801        3         16.267     0.429   0.732
     Group    Sess        48.801        3         16.267     0.429   0.732
Explained               1817.758        8        227.220     5.997   0.000
Residual                3447.746       91         37.887

Total                   5265.504       99         53.187
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  CSUM by Group by Sess (b) Session 5 excluded

                           SUM OF                     MEAN                  SIGNIF
SOURCE OF VARIATION        SQUARES       DF          SQUARE        F        OF F

Main Effects               483.528        4          120.882     3.448      0.012
     Group                 327.217        1          327.217     9.332      0.003
     Sess                  153.598        3           51.199     1.460      0.232
2-Way Interactions          48.801        3           16.267     0.464      0.708
     Group    Sess          48.801        3           16.267     0.464      0.708
Explained                  532.329        7           76.047     2.169      0.046
Residual                  2840.156       81           35.064

Total                     3372.485       88           38.324
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  CSUM by Group by Sess (a) all sessions considered

              VALUE
VARIABLE      LABEL       SUM             MEAN         STD DEV       VARIANCE      N

For Entire Population   1862.0000       18.6200       7.2930        53.1875      100

Group         Speakwrite   953.0000       19.0600       6.5040        42.3024       50
     Session 1             215.0000       16.5385       6.1692        37.9359       13
     Session 2             239.0000       19.9167       5.8225        33.9015       12
     Session 3             248.0000       20.6667       6.3006        39.6970       12
     Session 4             251.0000       19.3077       7.5541        57.0641       13

Group         Writeonly    909.0000       18.1800       8.0475        64.7629       50
     Session 1             152.0000       13.8182       4.4904        20.1636       11
     Session 2             109.0000       13.6250       3.2486        10.5536        8
     Session 3             179.0000       16.2727       6.3418        40.2182       11
     Session 4             152.0000       16.8889       5.1586        26.6111        9
     Session 5             317.0000       28.8182       7.7951        60.7636       11

Total Cases = 100
```

Without Session 5, Speakwrites as a whole wrote 25 per cent more subordinate clauses than the Writeonlys ($p < .01$). All Speakwrites from individual sessions also produced more subordinate clauses than their Writeonly counterparts, ranging from a high of 46 percent more (Session 2) to a low of 14 per cent more (Session 4).

```
ANOVA:  CSUM by Group by Sex

                            SUM OF                      MEAN                    SIGNIF
SOURCE OF VARIATION         SQUARES         DF          SQUARE          F       OF F

Main Effects                488.458          2          244.229       5.034     0.008
     Group                   27.705          1           27.705       0.571     0.452
     Sex                    469.098          1          469.098       9.669     0.002
2-Way Interactions          119.337          1          119.337       2.460     0.120
     Group     Sex          119.337          1          119.337       2.460     0.120
Explained                   607.797          3          202.599       4.176     0.008
Residual                   4657.707         96           48.518

Total                      5265.504         99           53.187
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  CSUM by Group by Sex

                VALUE
VARIABLE        LABEL        SUM            MEAN        STD DEV     VARIANCE      N

For Entire Population       1862.0000      18.6200     7.2930      53.1875      100

Group          Speakwrite    953.0000      19.0600     6.5040      42.3024       50
     Sex         Male        488.0000      18.0741     5.6495      31.9174       27
     Sex         Female      465.0000      20.2174     7.3420      53.9051       23

Group          Writeonly     909.0000      18.1800     8.0475      64.7629       50
     Sex         Male        373.0000      14.9200     5.6489      31.9100       25
     Sex         Female      536.0000      21.4400     8.8416      78.1733       25

Total Cases = 100
```

Again there were no signficant differences by sex between groups, but females from both groups wrote more subordinate clauses than their male counterparts (p < .01). Speakwrite females wrote almost 12 per cent more, and Writeonly females almost 44 per cent more. Male Speakwrites wrote 21 per cent more subordinate clauses than Writeonly males, whereas the reverse was true of female Speakwrites who produced 6 per cent fewer than their Writeonly counterparts.

```
ANOVA:  CSUM by Group by Ethnic

                            SUM OF                    MEAN                    SIGNIF
SOURCE OF VARIATION         SQUARES          DF       SQUARE         F        OF F

Main Effects                  72.769          4        18.192      0.330      0.857
     Group                    12.233          1        12.233      0.222      0.639
     Ethnic                   53.409          3        17.803      0.323      0.809
2-Way Interactions            60.463          2        30.232      0.548      0.580
     Group  Ethnic            60.463          2        30.232      0.548      0.580
Explained                    133.234          6        22.206      0.402      0.876
Residual                    5132.270         93        55.186

Total                       5265.504         99        53.187
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  CSUM by Group by Ethnic

                   VALUE
VARIABLE           LABEL        SUM             MEAN        STD DEV        VARIANCE       N

For Entire Population         1862.0000        18.6200      7.2930         53.1875      100

Group          Speakwrite      953.0000        19.0600      6.5040         42.3024       50
     Anglo                     802.0000        19.0952      6.8852         47.4053       42
     Hispanic                   86.0000        21.5000      2.0817          4.3333        4
     Black                      45.0000        15.0000      4.5826         21.0000        3
     Oriental                   20.0000        20.0000      0.0             0.0           1

Group          Writeonly       909.0000        18.1800      8.0475         64.7629       50
     Anglo                     812.0000        18.4545      8.3177         69.1839       44
     Hispanic                   13.0000        13.0000      0.0             0.0           1
     Black                      84.0000        16.8000      6.3008         39.7000        5

Total Cases = 100
```

```
ANOVA:  CLRATE by Group by Sess (a) all sessions considered

                        SUM OF                MEAN               SIGNIF

SOURCE OF VARIATION     SQUARES      DF       SQUARE       F     OF F

Main Effects            0.271         5       0.054      0.634   0.674
     Group              0.026         1       0.026      0.299   0.586
     Sess               0.271         4       0.068      0.792   0.533
2-Way Interactions      0.313         3       0.104      1.219   0.307
     Group    Sess      0.313         3       0.104      1.219   0.307
Explained               0.584         8       0.073      0.854   0.559
Residual                7.780        91       0.085

Total                   8.363        99       0.084
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  CLRATE by Group by Sess (b) Session 5 excluded

                        SUM OF                MEAN               SIGNIF
SOURCE OF VARIATION     SQUARES      DF       SQUARE       F     OF F

Main Effects            0.064         4       0.016      0.183   0.947
     Group              0.026         1       0.026      0.291   0.591
     Sess               0.041         3       0.014      0.156   0.926
2-Way Interactions      0.313         3       0.104      1.186   0.320
     Group    Sess      0.313         3       0.104      1.186   0.320
Explained               0.377         7       0.054      0.613   0.744
Residual                7.114        81       0.088

Total                   7.491        88       0.085
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  CLRATE by Group by Sess (a) all sessions considered

                  VALUE
VARIABLE          LABEL       SUM             MEAN      STD DEV     VARIANCE     N

For Entire Population         78.3446         0.7834    0.2907      0.0845      100

Group           Speakwrite    30.0884         0.7818    0.3095      0.0958       50
     Session 1                10.4040         0.8003    0.3670      0.1347       13
     Session 2                 8.8044         0.7337    0.1744      0.0304       12
     Session 3                10.5981         0.8832    0.3790      0.1437       12
     Session 4                 9.2820         0.7140    0.2810      0.0790       13

Group           Writeonly     39.2562         0.7851    0.2736      0.0749       50
     Session 1                 8.0698         0.7336    0.1961      0.0385       11
     Session 2                 6.8133         0.8517    0.4064      0.1651        8
     Session 3                 7.4951         0.6814    0.2763      0.0764       11
     Session 4                 6.8371         0.7597    0.2033      0.0413        9
     Session 5                10.0408         0.9128    0.2580      0.0666       11

Total Cases = 100
```

All that can be said about the number of subordinate clauses per T-unit (CLRATE) is that all differences measured, for groups, sessions, sex, and ethnic categories, showed no significance. In fact, what differences exist between Speakwrites and Writeonlys and among sessions could occur almost entirely by chance.

```
ANOVA:  CLRATE by Group by Sex

                          SUM OF                   MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES         DF       SQUARE       F        OF F

Main Effects              0.123            2       0.061      0.717      0.491
     Group                0.000            1       0.000      0.000      0.993
     Sex                  0.123            1       0.123      1.430      0.235
2-Way Interactions        0.013            1       0.013      0.146      0.703
     Group      Sex       0.013            1       0.013      0.146      0.703
Explained                 0.135            3       0.045      0.527      0.665
Residual                  8.228           96       0.086

Total                     8.363           99       0.084
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  CLRATE by Group by Sex

                  VALUE
VARIABLE          LABEL        SUM             MEAN      STD DEV     VARIANCE     N

For Entire Population          78.3446         0.7834    0.2907      0.0845      100

Group           Speakwrite     39.0884         0.7818    0.3095      0.0958       50
     Sex          Male         20.5156         0.7598    0.2850      0.0812       27
     Sex          Female       18.5728         0.0875    0.3407      0.1161       23

Group           Writeonly      39.2562         0.7851    0.2736      0.0749       50
     Sex          Male         18.4722         0.7389    0.2607      0.0680       25
     Sex          Female       20.7840         0.8314    0.2837      0.0805       25

Total Cases = 100
```

```
ANOVA:  CLRATE by Group by Ethnic

                          SUM OF                   MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F       OF F

Main Effects              0.367           4        0.092        1.085    0.368
     Group                0.005           1        0.005        0.064    0.801
     Ethnic               0.367           3        0.122        1.446    0.235
2-Way Interactions        0.131           2        0.065        0.774    0.464
     Group  Ethnic        0.131           2        0.065        0.774    0.464
Explained                 0.498           6        0.083        0.981    0.442
Residual                  7.865          93        0.085

Total                     8.363          99        0.084
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  CLRATE by Group by Ethnic

                  VALUE
VARIABLE          LABEL        SUM              MEAN       STD DEV      VARIANCE      N

For Entire Population          78.3446          0.7834     0.2907       0.0845      100

Group             Speakwrite   39.0884          0.7818     0.3095       0.0958       50
     Anglo                     31.7144          0.7551     0.3009       0.0906       42
     Hispanic                   4.2810          1.0703     0.2820       0.0795        4
     Black                      2.2930          0.7643     0.4352       0.1894        3
     Asian                      0.8000          0.8000     0.0          0.0           1

Group             Writeonly    39.2562          0.7851     0.2736       0.0749       50
     Anglo                     33.7902          0.7680     0.2590       0.0671       44
     Hispanic                   0.7647          0.7647     0.0          0.0           1
     Black                      4.7013          0.9403     0.4036       0.1629        5

Total Cases = 100
```

```
ANOVA:  NC by Group by Sess (a) all sessions considered

                          SUM OF                    MEAN                   SIGNIF
SOURCE OF VARIATION       SQUARES        DF         SQUARE         F       OF F

Main Effects              314.571         5         62.914       4.384     0.001
     Group                 69.317         1         69.317       4.830     0.031
     Sess                 308.321         4         77.080       5.371     0.001
2-Way Interactions         23.207         3          7.736       0.539     0.657
     Group    Sess         23.207         3          7.736       0.539     0.657
Explained                 337.778         8         42.222       2.942     0.006
Residual                 1306.001        91         14.352

Total                    1643.779        99         16.604
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  NC by Group by Sess (b)  Session 5 excluded

                          SUM OF                   MEAN                   SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F        OF F

Main Effects              110.385         4        27.596      2.122      0.086
     Group                 69.317         1        69.317      5.331      0.024
     Sess                  45.798         3        15.266      1.174      0.325
2-Way Interactions         23.207         3         7.736      0.595      0.620
     Group    Sess         23.207         3         7.736      0.595      0.620
Explained                 133.592         7        19.085      1.468      0.191
Residual                 1053.274        81        13.003

Total                    1186.867        88        13.487
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  NC by Group by Sess (a) all sessions considered

              VALUE
VARIABLE      LABEL        SUM              MEAN       STD DEV      VARIANCE     N

For Entire Population      739.0000         7.3900     4.0748       16.6039     100

Group         Speakwrite   382.0000         7.6400     4.0394       16.3167      50
     Session 1              92.0000         7.0769     4.2907       18.4103      13
     Session 2              75.0000         6.2500     2.9886        8.9318      12
     Session 3             110.0000         9.1667     4.4484       19.7879      12
     Session 4             105.0000         8.0769     4.1324       17.0769      13

Group         Writeonly    357.0000         7.1400     4.1355       17.1024      50
     Session 1              62.0000         5.6364     3.4430       11.8545      11
     Session 2              49.0000         6.1250     2.1671        4.6964       8
     Session 3              73.0000         6.6364     2.7303        7.4545      11
     Session 4              47.0000         5.2222     3.2702       10.6944       9
     Session 5             126.0000        11.4545     5.0272       25.2727      11

Total Cases = 100
```

Excluding Session 5, the Speakwrites as a whole produced 29 per cent more noun clauses than the Writeonlys ($p < .03$). Although no significance in differences among sessions between groups could be demonstrated, Speakwrites from individual sessions wrote more noun clauses than their Writeonly counterparts, ranging from a high of 55 per cent more (Session 4) to a low of 2 per cent more (Session 2).

```
ANOVA:  NC by Group by Sex

                            SUM OF                    MEAN                 SIGNIF
SOURCE OF VARIATION         SQUARES        DF         SQUARE        F      OF F

Main Effects                 25.286         2         12.643      0.762    0.470
     Group                    7.143         1          7.143      0.430    0.513
     Sex                     19.036         1         19.036      1.147    0.287
2-Way Interactions           25.383         1         25.383      1.530    0.219
     Group      Sex          25.383         1         25.383      1.530    0.219
Explained                    50.668         3         16.889      1.018    0.388
Residual                   1593.111        96         16.595

Total                      1643.779        99         16.604
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  NC by Group by Sex

                VALUE
VARIABLE        LABEL         SUM            MEAN       STD DEV      VARIANCE      N

For entire population         739.0000       7.3900     4.0748       16.6039     100

Group           Speakwrite    382.0000       7.6400     4.0394       16.3167      50
     Sex          Male        208.0000       7.7037     3.6355       13.2165      27
     Sex          Female      174.0000       7.5652     4.5510       20.7115      23

Group           Writeonly     357.0000       7.1400     4.1355       17.1024      50
     Sex          Male        155.0000       6.2000     2.7234        7.4167      25
     Sex          Female      202.0000       8.0800     5.0656       25.6600      25

Total Cases = 100
```

For the first time, males exceeded females in a quantifiable measure of this kind, the Speakwrite males writing almost 2 per cent more noun clauses than Speakwrite females. However, this did not hold true of the Writeonlys: the females wrote 30 per cent more noun clauses than males. Also, Speakwrite males wrote 24 per cent more noun clauses than Writeonly males, whereas the reverse was true of females: Writeonlys wrote 6 per cent more than Speakwrites. No significance, however, for any of these findings could be demonstrated.

```
ANOVA:  NC by Group by Ethnic

                          SUM OF                   MEAN                     SIGNIF
SOURCE OF VARIATION       SQUARES        DF        SQUARE        F          OF F

Main Effects               57.506         4        14.377       0.868       0.486
     Group                  5.598         1         5.598       0.338       0.562
     Ethnic                51.256         3        17.085       1.032       0.382
2-Way Interactions         45.887         2        22.994       1.385       0.255
     Group  Ethnic         45.887         2        22.994       1.385       0.255
Explained                 103.394         6        17.232       1.040       0.404
Residual                 1540.385        93        16.563

Total                    1643.779        99        16.604
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  NC by Group by Ethnic

               VALUE
VARIABLE       LABEL       SUM             MEAN       STD DEV      VARIANCE      N

For Entire Population      739.0000        7.3900     4.0748       16.6039      100

Group          Speakwrite  382.0000        7.6400     4.0394       16.3167       50
     Anglo                 319.0000        7.5952     4.1205       16.9785       42
     Hispanic               43.0000       10.7500     2.5000        6.2500        4
     Black                  18.0000        6.0000     1.7321        3.0000        3
     Asian                   2.0000        2.0000     0.0           0.0           1

Group          Writeonly   357.0000        7.1400     4.1355       17.1024       50
     Anglo                 320.0000        7.2727     4.2665       18.2030       44
     Hispanic                3.0000        3.0000     0.0           0.0           1
     Black                  34.0000        6.8000     3.0332        9.2000        5

Total Cases = 100
```

```
ANOVA:  AJC by Group by Sess (a) all sessions considered

                          SUM OF                   MEAN                   SIGNIF
SOURCE OF VARIATION       SQUARES       DF         SQUARE        F        OF F

Main Effects              114.681        5         22.936      3.273      0.009
     Group                 28.779        1         28.779      4.107      0.046
     Sess                 108.921        4         27.230      3.886      0.006
2-Way Interactions         27.356        3          9.119      1.301      0.279
     Group    Sess         27.356        3          9.119      1.301      0.279
Explained                 142.038        8         17.755      2.534      0.015
Residual                  637.713       91          7.008

Total                     779.751       99          7.876
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  AJC by Group by Sess (b) Session 5 excluded

                          SUM OF                   MEAN                   SIGNIF
SOURCE OF VARIATION       SQUARES       DF         SQUARE        F        OF F

Main Effects               58.368        4         14.592      2.295      0.066
     Group                 28.779        1         28.779      4.526      0.036
     Sess                  29.404        3          9.801      1.542      0.210
2-Way Interactions         27.356        3          9.119      1.434      0.239
     Group    Sess         27.356        3          9.119      1.434      0.239
Explained                  85.724        7         12.246      1.926      0.076
Residual                  514.988       81          6.358

Total                     600.712       88          6.826
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  AJC by Group by Sess (a) all sessions considered


                VALUE
VARIABLE        LABEL       SUM              MEAN      STD DEV      VARIANCE    N

For Entire Population       432.0000         4.3200    2.8065       7.8764      100

Group          Speakwrite   228.0000         4.5600    2.8006       7.8433       50
     Session 1               43.0000         3.3077    2.0569       4.2308       13
     Session 2               66.0000         5.5000    2.6799       7.1818       12
     Session 3               68.0000         5.6667    3.6763      13.5152       12
     Session 4               51.0000         3.9231    2.1394       4.5769       13

Group          Writeonly    204.0000         4.0800    2.8200       7.9527       50
     Session 1               34.0000         3.0909    1.3003       1.6909       11
     Session 2               24.0000         3.0000    2.2039       4.8571        8
     Session 3               39.0000         3.5455    2.6595       7.0727       11
     Session 4               36.0000         4.0000    2,7386       7.5000        9
     Session 5               71.0000         6.4545    3.5032      12.2727       11

Total Cases = 100
```

Excluding Session 5, Speakwrites, as a whole, wrote almost 34 per cent more adjectival clauses than the Writeonlys (p <.04). With the exception of Session 4, Speakwrites from all individual sessions wrote more adjectival clauses than their Writeonly counterparts, ranging from 83 per cent more (Session 2) to 7 per cent more (Session 1). No significance for these differences among session could be demonstrated.

```
ANOVA:  AJC by Group by Sex


                         SUM OF                     MEAN                 SIGNIF
SOURCE OF VARIATION      SQUARES        DF          SQUARE        F      OF F

Main Effects              23.659         2          11.830      1.502    0.228
     Group                 6.592         1           6.592      0.837    0.363
     Sex                  17.899         1          17.899      2.273    0.135
2-Way Interactions         0.026         1           0.026      0.003    0.954
     Group      Sex        0.026         1           0.026      0.003    0.954
Explained                 23.686         3           7.895      1.002    0.395
Residual                 756.065        96           7.876

Total                    779.751        99           7.876
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AJC by Group by Sex

                  VALUE
VARIABLE          LABEL        SUM              MEAN       STD DEV      VARIANCE      N

For Entire Population          432.0000         4.3200     2.8065       7.8764      100

Group            Speakwrite    228.0000         4.5600     2.8006       7.8433       50
     Sex           Male        113.0000         4.1852     2.8560       8.1567       27
     Sex           Female      115.0000         5.0000     2.7303       7.4545       23

Group            Writeonly     204.0000         4.0800     2.8200       7.9527       50
     Sex           Male         91.0000         3.6400     2.1190       4.4900       25
     Sex           Female      113.0000         4.5200     3.3680      11.3433       25

Total Cases = 100
```

Although no significance could be demonstrated for differences by sex between groups, female Speakwrites wrote 19 per cent more adjectival clauses than male Speakwrites. Female Writeonlys also wrote 24 per cent more adjectival clauses their male counterparts. Male Speakwrites wrote 15 per cent more than male Writeonlys, and female Speakwrites wrote almost 11 per cent more than female Writeonlys.

```
ANOVA:  AJC by Group by Ethnic

                          SUM OF                  MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES       DF        SQUARE       F        OF F

Main Effects                9.192        4         2.298     0.277      0.892
     Group                  4.391        1         4.391     0.530      0.468
     Ethnic                 3.432        3         1.144     0.138      0.937
2-Way Interactions          0.181        2         0.091     0.011      0.989
     Group  Ethnic          0.181        2         0.091     0.011      0.989
Explained                   9.374        6         1.562     0.189      0.979
Residual                  770.377       93         8.284

Total                     779.751       99         7.876
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AJC by Group by Ethnic

                 VALUE
VARIABLE         LABEL        SUM            MEAN      STD DEV     VARIANCE     N

For Entire Population        432.0000        4.3200    2.8065       7.8764     100

Group          Speakwrite    228.0000        4.5600    2.8006       7.8433      50
     Anglo                   191.0000        4.5476    2.8899       8.3513      42
     Hispanic                 19.0000        4.7500    3.5000      12.2500       4
     Black                    12.0000        4.0000    1.0000       1.0000       3
     Asian                     6.0000        6.0000    0.0          0.0          1

Group          Writeonly     204.0000        4.0800    2.8200       7.9527      50
     Anglo                   181.0000        4.1136    2.8871       8.3356      44
     Hispanic                  4.0000        4.0000    0.0          0.0          1
     Black                    19.0000        3.8000    2.7749       7.7000       5

Total Cases = 100
```

```
ANOVA:  AVC by Group by Sess (a) all sessions considered

                         SUM OF                  MEAN                   SIGNIF
SOURCE OF VARIATION      SQUARES       DF        SQUARE        F        OF F

Main Effects             260.687        5        52.137      4.604      0.001
     Group                19.350        1        19.350      1.709      0.194
     Sess                260.437        4        65.109      5.749      0.000
2-Way Interactions        52.981        3        17.660      1.560      0.205
     Group    Sess        52.981        3        17.660      1.560      0.205
Explained                313.668        8        39.208      3.462      0.002
Residual                1030.513       91        11.324

Total                   1344.181       99        13.578
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  AVC by Group by Sess (b) Session 5 excluded

                          SUM OF                    MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES       DF          SQUARE        F      OF F

Main Effects               63.024        4          15.756      1.576    0.189
     Group                 19.350        1          19.350      1.936    0.168
     Sess                  40.503        3          13.501      1.351    0.264
2-Way Interactions         52.981        3          17.660      1.767    0.160
     Group    Sess         52.981        3          17.660      1.767    0.160
Explained                 116.005        7          16.572      1.658    0.131
Residual                  809.606       81           9.995

Total                     925.611       88          10.518
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  AVC by Group by Sess (a) all sessions considered

             VALUE
VARIABLE     LABEL         SUM            MEAN      STD DEV    VARIANCE     N

For Entire Population      691.0000       6.9100    3.6848     13.5777    100

Group        Speakwrite    343.0000       6.8600    3.5226     12.4086     50
     Session 1              80.0000       6.1538    2.7033      7.3077     13
     Session 2              98.0000       8.1667    3.4859     12.1515     12
     Session 3              70.0000       5.8333    3.2706     10.6970     12
     Session 4              95.0000       7.3077    4.3471     18.8974     13

Group        Writeonly     348.0000       6.9600    3.8754     15.0188     50
     Session 1              56.0000       5.0909    2.5867      6.6909     11
     Session 2              36.0000       4.5000    2.2678      5.1429      8
     Session 3              67.0000       6.0909    2.7732      7.6909     11
     Session 4              69.0000       7.6667    2.8284      8.0000      9
     Session 5             120.0000      10.9091    4.7001     22.0909     11

Total Cases = 100
```

Excluding Session 5, Speakwrites, as a whole, wrote 18 per cent more adverbial clauses than Writeonlys, but no significance could be demonstrated. Speakwrites from Sessions 1 and 2 wrote more adverbial clauses than their Writeonly counterparts (21 per cent and 81 per cent more respectively), though the reverse was true of Sessions 3 and 4, the Writeonlys writing 4 per cent and 5 per cent more than the Speakwrites respectively.

```
ANOVA:  AVC by Group by Sex

                             SUM OF                    MEAN                SIGNIF
SOURCE OF VARIATION          SQUARES       DF          SQUARE        F     OF F

Main Effects                 170.942       2           85.471       7.195  0.001
     Group                     0.001       1            0.001       0.000  0.995
     Sex                     170.692       1          170.692      14.368  0.000
2-Way Interactions            32.756       1           32.756       2.757  0.100
     Group     Sex            32.756       1           32.756       2.757  0.100
Explained                    203.699       3           67.900       5.715  0.001
Residual                    1140.482      96           11.880

Total                       1344.181      99           13.578
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AVC by Group by Sex

               VALUE
VARIABLE       LABEL        SUM            MEAN       STD DEV      VARIANCE     N

For Entire Population       691.0000       6.9100     3.6848       13.5777     100

Group          Speakwrite   343.0000       6.8600     3.5226       12.4086      50
     Sex        Male        167.0000       6.1852     3.5738       12.7721      27
     Sex        Female      176.0000       7.6522     3.3657       11.3281      23

Group          Writeonly    348.0000       6.9600     3.8754       15.0188      50
     Sex        Male        127.0000       5.0800     2.6445        6.9933      25
     Sex        Female      221.0000       8.8400     4.0382       16.3067      25

Total Cases = 100
```

Though no significance could be demonstrated by sex between groups, females as a whole wrote more adverbial clauses than males. Female Speakwrites wrote almost 24 per cent more adverbial clauses than Male Speakwrites, and female Writeonlys wrote almost 74 per cent more than their male couterparts ($p < .001$). Male Speakwrites wrote almost 22 per cent more than adverbial clauses than Writeonly males, but the reverse was again true of the females: Writeonlys wrote 15 per cent more than the Speakwrites.

```
ANOVA:  AVC by Group by Ethnic

                           SUM OF                   MEAN                 SIGNIF
SOURCE OF VARIATION        SQUARES        DF        SQUARE       F       OF F

Main Effects                42.631         4        10.658     0.763     0.552
     Group                   0.929         1         0.929     0.066     0.797
     Ethnic                 42.381         3        14.127     1.011     0.392
2-Way Interactions           2.059         2         1.029     0.074     0.929
     Group  Ethnic           2.059         2         1.029     0.074     0.929
Explained                   44.690         6         7.448     0.533     0.782
Residual                  1299.491        93        13.973

Total                     1344.181        99        13.578
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AVC by Group by Ethnic

               VALUE
VARIABLE       LABEL        SUM              MEAN      STD DEV     VARIANCE     N

For Entire Population       691.0000         6.9100    3.6848      13.5777    100

Group          Speakwrite   343.0000         6.8600    3.5226      12.4086     50
     Anglo                  292.0000         6.9524    3.4778      12.0952     42
     Hispanic                24.0000         6.0000    4.3970      19.3333      4
     Black                   15.0000         5.0000    2.6458       7.0000      3
     Oriental                12.0000        12.0000    0.0           0.0        1

Group          Writeonly    348.0000         6.9600    3.8754      15.0188     50
     Anglo                  311.0000         7.0682    4.0485      16.3906     44
     Hispanic                 6.0000         6.0000    0.0           0.0        1
     Black                   31.0000         6.2000    2.5884       6.7000      5

Total Cases = 100
```

```
ANOVA:  NCPRO by Group by Sess

                             SUM OF                   MEAN                   SIGNIF
SOURCE OF VARIATION          SQUARES        DF        SQUARE        F        OF F

Main Effects                 0.432           6        0.072        3.963     0.001
     Group                   0.376           2        0.188       10.356     0.000
     Sess                    0.051           4        0.013        0.698     0.595
2-Way Interactions           0.196           6        0.033        1.798     0.104
     Group    Sess           0.196           6        0.033        1.798     0.104
Explained                    0.628          12        0.052        2.880     0.001
Residual                     2.489         137        0.018

Total                        3.117         149        0.021
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  NCPRO by Group by Sess

                 VALUE
VARIABLE         LABEL         SUM            MEAN       STD DEV      VARIANCE      N

For Entire Population          64.5774        0.4305     0.1446       0.0209      150

Group           Speakwrite     20.0032        0.4001     0.1614       0.0261       50
     Session 1                  5.3209        0.4093     0.1801       0.0325       13
     Session 2                  3.8354        0.3196     0.1383       0.0191       12
     Session 3                  5.1937        0.4328     0.1443       0.0208       12
     Session 4                  5.6532        0.4349     0.1686       0.0284       13

Group           Writeonly      19.4952        0.3899     0.1513       0.0229       50
     Session 1                  4.3008        0.3910     0.1750       0.0306       11
     Session 2                  3.5945        0.4493     0.1505       0.0226        8
     Session 3                  4.6255        0.4205     0.1500       0.0225       11
     Session 4                  2.6119        0.2902     0.1332       0.0177        9
     Session 5                  4.3625        0.3966     0.1268       0.0161       11

Group           Interview      25.0790        0.5016     0.0831       0.0069       50
     Session 1                  6.4629        0.4971     0.0925       0.0086       13
     Session 2                  6.0215        0.5018     0.0863       0.0074       12
     Session 3                  6.3013        0.5251     0.0733       0.0054       12
     Session 4                  6.2932        0.4841     0.0834       0.0070       13

Total Cases = 150
```

Including Session 5, no significance in differences among sessions by group could be determined, but comparing only groups excluding Session 5, the Speakwrites wrote 40 per cent noun clauses as compared to 38.17 per cent for the Writeonlys, a difference of 1.8 per cent (p < .001). The Speakwrites, in their interviews, also spoke 25 per cent more noun clauses (50 per cent of all subordinate clauses) than they wrote (40 per cent of all subordinate clauses).

```
ANOVA:  NCPRO by Group by Sex

                          SUM OF                    MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES        DF         SQUARE         F     OF F

Main Effects              0.402           3         0.134       7.324    0.000
     Group                0.377           2         0.189      10.327    0.000
     Sex                  0.020           1         0.020       1.105    0.295
2-Way Interactions        0.085           2         0.042       2.316    0.102
     Group      Sex       0.085           2         0.042       2.316    0.102
Explained                 0.486           5         0.097       5.321    0.000
Residual                  2.631         144         0.018

Total                     3.117         149         0.021

     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  NCPRO by Group by Sex

                VALUE
VARIABLE        LABEL        SUM             MEAN      STD DEV     VARIANCE     N

For Entire Population        64.5774         0.4305    0.1446      0.0209     150

Group          Speakwrite    20.0032         0.4001    0.1614      0.0261      50
     Sex        Male         11.4803         0.4252    0.1426      0.0203      27
     Sex        Female        8.5229         0.3706    0.1798      0.0323      23

Group          Writeonly     19.4952         0.3899    0.1513      0.0229      50
     Sex        Male         10.4853         0.4194    0.1531      0.0234      25
     Sex        Female        9.0099         0.3604    0.1465      0.0215      25

Group          Interview     25.0790         0.5016    0.0831      0.0069      50
     Sex        Male         12.9944         0.4813    0.0885      0.0078      27
     Sex        Female       12.0846         0.5254    0.0708      0.0050      23

Total Cases = 150
```

No significance in differences by sex between groups could be determined, but Speakwrite females as a whole wrote 37.06 per cent noun clauses as compared to 42.52 per cent for Speakwrite males, a difference of 5.46 per cent. Likewise, Writeonly females wrote 36.04 per cent noun clauses as compared to 41.94 for males, a difference of 5.9 per cent. Also, Speakwrite males wrote only .58 per cent more noun clauses than Writeonly males, and Speakwrite females wrote 1.02 per cent more than Writeonly females. Finally, Speakwrite males spoke 7.66 per cent more noun clauses than they wrote, and Speakwrite females spoke 5.48 per cent more than they wrote.

```
ANOVA:  NCPRO by Group by Ethnic

                          SUM OF                   MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES       DF         SQUARE        F      OF F

Main Effects              0.477          5         0.095       5.291    0.000
     Group                0.374          2         0.187      10.357    0.000
     Ethnic               0.096          3         0.032       1.775    0.155
2-Way Interactions        0.131          5         0.026       1.456    0.208
     Group  Ethnic        0.131          5         0.026       1.456    0.208
Explained                 0.609         10         0.061       3.374    0.001
Residual                  2.509        139         0.018

Total                     3.177        149         0.021
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  NCPRO by Group by Ethnic

              VALUE
VARIABLE      LABEL        SUM           MEAN      STD DEV      VARIANCE     N

For Entire Population     64.5774        0.4305    0.1446       0.0209     150

Group         Speakwrite  20.0032        0.4001    0.1614       0.0261      50
     Anglo                16.6563        0.3966    0.1603       0.0257      42
     Hispanic              2.0410        0.5102    0.1651       0.0273       4
     Black                 1.2059        0.4020    0.0346       0.0012       3
     Asian                 0.1000        0.1000    0.0          0.0          1

Group         Writeonly   19.4952        0.3899    0.1513       0.0229      50
     Anglo                17.1990        0.3909    0.1522       0.0232      44
     Hispanic              0.2308        0.2308    0.0          0.0          1
     Black                 2.0654        0.4131    0.1561       0.0244       5

Group         Interview   25.0790        0.5016    0.0831       0.0069      50
     Anglo                21.1868        0.5044    0.0767       0.0059      42
     Hispanic              2.2744        0.5686    0.0747       0.0056       4
     Black                 1.1563        0.3854    0.0990       0.0098       3
     Asian                 0.4615        0.4615    0.0          0.0          1
Total Cases = 100
```

```
ANOVA:  AJCPRO by Group by Sess

                           SUM OF                    MEAN                   SIGNIF
SOURCE OF VARIATION        SQUARES        DF         SQUARE         F       OF F

Main Effects               0.199           6         0.033        2.934     0.010
     Group                 0.183           2         0.091        8.068     0.000
     Sess                  0.011           4         0.003        0.248     0.910
2-Way Interactions         0.069           6         0.012        1.020     0.415
     Group    Sess         0.069           6         0.012        1.020     0.415
Explained                  0.269          12         0.022        1.977     0.031
Residual                   1.551         137         0.011

Total                      1.819         149         0.012
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AJCPRO by Group by Sess

              VALUE
VARIABLE      LABEL        SUM           MEAN      STD DEV      VARIANCE     N

For Entire Population      31.3368       0.2089    0.1105       0.0122     150

Group         Speakwrite   12.1101       0.2422    0.1219       0.0148      50
     Session 1              2.5923       0.1994    0.1178       0.0139      13
     Session 2              3.3301       0.2775    0.1169       0.0137      12
     Session 3              3.3618       0.2802    0.1460       0.0213      12
     Session 4              2.8258       0.2174    0.0965       0.0093      13

Group         Writeonly    11.2326       0.2247    0.1219       0.0149      50
     Session 1              2.6947       0.2450    0.1088       0.0118      11
     Session 2              1.6176       0.2022    0.1322       0.0175       8
     Session 3              2.2532       0.2048    0.1115       0.0124      11
     Session 4              2.1193       0.2355    0.1255       0.0157       9
     Session 5              2.5479       0.2316    0.1494       0.0223      11

Group         Interview     7.9940       0.1599    0.0598       0.0036      50
     Session 1              2.0939       0.1611    0.0492       0.0024      13
     Session 2              2.0388       0.1699    0.0624       0.0039      12
     Session 3              1.8676       0.1556    0.0520       0.0027      12
     Session 4              1.9937       0.1534    0.0772       0.0060      13

Total Cases = 150
```

Including Session 5, no significance in differences among sessions by group could be determined, but comparing only groups, excluding Session 5, Speakwrites wrote 24.22 per cent adjectival clauses, as compared to 22.18 per cent for the Writeonlys, a difference of 2.04 per cent ($p < .001$). The Speakwrites, in their interviews, however, used only 16 per cent adjectival clauses, compared to 24.22 per cent in their writing, a difference of 8.22 per cent.

```
ANOVA:  AJCPRO by Group by Sex

                           SUM OF                  MEAN                SIGNIF
SOURCE OF VARIATION        SQUARES        DF       SQUARE       F      OF F

Main Effects               0.192           3       0.064      5.765    0.001
     Group                 0.189           2       0.094      8.486    0.000
     Sex                   0.004           1       0.004      0.381    0.538
2-Way Interactions         0.026           2       0.013      1.184    0.309
     Group     Sex         0.026           2       0.013      1.184    0.309
Explained                  0.219           5       0.044      3.932    0.002
Residual                   1.601         144       0.011

Total                      1.819         149       0.012
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AJCPRO by Group by Sex

              VALUE
VARIABLE      LABEL        SUM           MEAN      STD DEV     VARIANCE     N

For Entire Population      31.3368       0.2089    0.1105      0.0122     150

Group         Speakwrite   12.1101       0.2422    0.1219      0.0148      50
     Sex        Male        6.2206       0.2304    0.1267      0.0161      27
     Sex        Female      5.8895       0.2561    0.1172      0.0137      23

Group         Writeonly    11.2326       0.2247    0.1219      0.0149      50
     Sex        Male        6.0812       0.2432    0.0988      0.0098      25
     Sex        Female      5.1515       0.2061    0.1410      0.0199      25

Group         Interview     7.9940       0.1599    0.0598      0.0036      50
     Sex        Male        4.5684       0.1692    0.0650      0.0042      27
     Sex        Female      3.4257       0.1489    0.0523      0.0027      23

Total Cases = 150
```

Though there was no significance determined by sex between groups, Speakwrite females as a whole wrote 25.61 per cent adjectival clauses as compared to 23.04 per cent for Speakwrite males, difference of 2.57 per cent. Writeonly females wrote 3.71 per cent fewer adjectival clauses than Writeonly males, and Speakwrite males wrote 1.28 per cent fewer than Writeonly males. But Speakwrite females wrote 5 per cent more adjectival clauses than their Writeonly counterparts. Finally, Speakwrite females, in their interivews, spoke 10.72 per cent fewer adjectival clauses than they wrote, compared to 6.12 per cent fewer for the males.

```
ANOVA:  AJCPRO by Group by Ethnic

                            SUM OF                    MEAN                    SIGNIF
SOURCE OF VARIATION         SQUARES        DF         SQUARE         F        OF F

Main Effects                0.220           5         0.044        3.938      0.002
     Group                  0.187           2         0.094        8.365      0.000
     Ethnic                 0.032           3         0.011        0.963      0.412
2-Way Interactions          0.044           5         0.009        0.780      0.566
     Group  Ethnic          0.044           5         0.009        0.780      0.566
Explained                   0.264          10         0.026        2.359      0.013
Residual                    1.555         139         0.011

Total                       1.819         149         0.012
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AJCPRO by Group by Ethnic

               VALUE
VARIABLE       LABEL        SUM            MEAN      STD DEV      VARIANCE      N

For Entire Population       31.3368        0.2089    0.1105       0.0122      150

Group          Speakwrite   12.1101        0.2422    0.1219       0.0148       50
     Anglo                  10.0919        0.2403    0.1224       0.0150       42
     Hispanic                0.8676        0.2169    0.1627       0.0265        4
     Black                   0.8507        0.2836    0.1077       0.0116        3
     Asian                   0.3000        0.3000    0.0          0.0           1

Group          Writeonly    11.2326        0.2247    0.1219       0.0149       50
     Anglo                   9.8663        0.2242    0.1255       0.0158       44
     Hispanic                0.3077        0.3077    0.0          0.0           1
     Black                   1.0586        0.2117    0.1040       0.0108        5

Group          Interview     7.9940        0.1599    0.0598       0.0036       50
     Anglo                   6.3342        0.1508    0.0466       0.0022       42
     Hispanic                0.5636        0.1409    0.0741       0.0055        4
     Black                   0.8215        0.2738    0.0790       0.0062        3
     Asian                   0.2747        0.2747    0.0          0.0           1

Total Cases = 150
```

```
ANOVA:  AVCPRO by Group by Sess

                           SUM OF                   MEAN                    SIGNIF
SOURCE OF VARIATION        SQUARES        DF        SQUARE         F        OF F

Main Effects               0.129           6        0.022        1.377      0.228
     Group                 0.062           2        0.031        1.978      0.142
     Sess                  0.074           4        0.018        1.178      0.323
2-Way Interactions         0.130           6        0.022        1.387      0.224
     Group    Sess         0.130           6        0.022        1.387      0.224
Explained                  0.260          12        0.022        1.382      0.181
Residual                   2.145         137        0.016

Total                      2.405         149        0.016
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AVCPRO by Group by Sess

               VALUE
VARIABLE       LABEL        SUM            MEAN       STD DEV       VARIANCE     N

For Entire Population       54.0858        0.3606     0.1270        0.0161      150

Group          Speakwrite   17.8867        0.3577     0.1453        0.0211       50
     Session 1               5.0868        0.3913     0.1449        0.0210       13
     Session 2               4.8344        0.4029     0.1054        0.0111       12
     Session 3               3.4445        0.2870     0.1425        0.0203       12
     Session 4               4.5210        0.3478     0.1675        0.0281       13

Group          Writeonly    19.2722        0.3854     0.1462        0.0214       50
     Session 1               4.0045        0.3640     0.1408        0.0198       11
     Session 2               2.7879        0.3485     0.2171        0.0471        8
     Session 3               4.1214        0.3747     0.1021        0.0104       11
     Session 4               4.2688        0.4743     0.1505        0.0227        9
     Session 5               4.0896        0.3718     0.1196        0.0143       11

Group          Interview    16.9270        0.3385     0.0739        0.0055       50
     Session 1               4.4432        0.3418     0.0776        0.0060       13
     Session 2               3.9396        0.3283     0.0954        0.0091       12
     Session 3               3.8311        0.3193     0.0472        0.0022       12
     Session 4               4.7130        0.3625     0.0689        0.0048       13

Total Cases = 150
```

Including Session 5, there was no significance in the differences between groups, though as a whole Writeonlys wrote 38.54 per cent adverbial clauses over the Speakwrites' 35.77, a difference of 2.77 per cent. Also, Speakwrites as a whole, in their interviews, spoke 1.92 per cent fewer adverbial clauses than they wrote.

```
ANOVA:  AVCPRO by Group by Sex

                            SUM OF                      MEAN                    SIGNIF
SOURCE OF VARIATION         SQUARES         DF          SQUARE          F       OF F

Main Effects                0.098            3          0.033        2.133      0.099
     Group                  0.052            2          0.026        1.697      0.187
     Sex                    0.043            1          0.043        2.787      0.097
2-Way Interactions          0.090            2          0.045        2.934      0.056
     Group      Sex         0.090            2          0.045        2.934      0.056
Explained                   0.189            5          0.038        2.454      0.036
Residual                    2.216          144          0.015

Total                       2.405          149          0.016
     10C cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AVCPRO by Group by Sex

                 VALUE
VARIABLE         LABEL        SUM             MEAN       STD DEV       VARIANCE      N

For Entire Population         54.0858         0.3606     0.1270        0.0161      150

Group          Speakwrite     17.8867         0.3577     0.1453        0.0211       50
     Sex         Male          9.2990         0.3444     0.1551        0.0241       27
     Sex         Female        8.5876         0.3734     0.1347        0.0181       23

Group          Writeonly      19.2722         0.3854     0.1462        0.0214       50
     Sex         Male          8.4336         0.3373     0.1200        0.0144       25
     Sex         Female       10.8386         0.4335     0.1562        0.0244       25

Group          Interview      16.9270         0.3385     0.0739        0.0055       50
     Sex         Male          9.4372         0.3495     0.073[illegible]        0.0054       27
     Sex         Female        7.4897         0.3256     0.0740        0.0055       23

Total Cases = 150
```

Though there was no significance in the differences by sex between groups, Speakwrite females wrote 37.34 per cent adverbial clauses, compared to 34.4 per cent for Speakwrite males, a difference of 2.9 per cent. Likewise, Writeonly females wrote 43.35 per cent adverbial clauses, as compared to 33.73 for males, a difference of 9.62 per cent. Speakwrite females wrote 6.01 per cent fewer adverbial clauses than Writeonly females, and Speakwrite males .7 per cent more than their Writeonly counterparts. Finally, Speakwrite females, in their interviews, spoke 4.78 per cent fewer adverbial clauses than they wrote, and males .51 per cent more than they wrote.

```
ANOVA:  AVCPRO by Group by Ethnic

                          SUM OF                 MEAN                 SIGNIF
SOURCE OF VARIATION       SQUARES       DF       SQUARE       F       OF F

Main Effects              0.097          5       0.019      1.210     0.308
     Group                0.052          2       0.026      1.628     0.200
     Ethnic               0.042          3       0.014      0.862     0.462
2-Way Interactions        0.076          5       0.015      0.942     0.456
     Group  Ethnic        0.076          5       0.015      0.942     0.456
Explained                 0.173         10       0.017      1.076     0.385
Residual                  2.232        139       0.016

Total                     2.405        149       0.016
     150 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  AVCPRO by Group by Ethnic

                VALUE
VARIABLE        LABEL          SUM          MEAN      STD DEV     VARIANCE      N

For Entire Population         54.0858       0.3606    0.1270      0.0161      150

Group           Speakwrite    17.8867       0.3577    0.1453      0.0211       50
     Anglo                    15.2518       0.3631    0.1406      0.0198       42
     Hispanic                  1.0915       0.2729    0.1914      0.0366        4
     Black                     0.9434       0.3145    0.0992      0.0098        3
     Asian                     0.6000       0.6000    0.0         0.0           1

Group           Writeonly     19.2722       0.3854    0.1462      0.0214       50
     Anglo                    16.9346       0.3849    0.1496      0.0224       44
     Hispanic                  0.4615       0.4615    0.0         0.0           1
     Black                     1.8760       0.3752    0.1402      0.0197        5

Group           Interview     16.9270       0.3385    0.0739      0.0055       50
     Anglo                    14.4791       0.3447    0.0760      0.0058       42
     Hispanic                  1.1620       0.2905    0.0666      0.0044        4
     Black                     1.0222       0.3407    0.0209      0.0004        3
     Asian                     0.2637       0.2637    0.0         0.0           1

Total Cases = 150
```

Propositions

Propositions (PROP), the only quantifiable measure of semantic content as defined and explained in METHOD, were counted, as were propositions per T-unit. Following are the ANOVAs for groups, sessions, sex, and ethnic categories.

```
ANOVA:  PROP by Group by Sess (a) all sessions considered


                         SUM OF                      MEAN                 SIGNIF
SOURCE OF VARIATION      SQUARES        DF           SQUARE        F      OF F

Main Effects             4108.410        5           821.682     8.313    0.000
     Group                579.136        1           579.136     5.589    0.017
     Sess                4077.053        4          1019.263    10.312    0.000
2-Way Interactions        214.586        3            71.529     0.724    0.540
     Group    Sess        214.585        3            71.528     0.724    0.540
Explained                4322.996        8           540.375     5.467    0.000
Residual                 8994.625       91            98.842

Total                   13317.621       99           134.521
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  PROP by Group by Sess (b) Session 5 excluded


                         SUM OF                      MEAN                 SIGNIF
SOURCE OF VARIATION      SQUARES        DF           SQUARE        F      OF F

Main Effects             1639.156        4           409.789     4.210    0.004
     Group                579.136        1           579.136     5.950    0.017
     Sess                1031.892        3           343.964     3.534    0.018
2-Way Interactions        214.585        3            71.528     0.735    0.534
     Group    Sess        214.585        3            71.528     0.735    0.534
Explained                1853.742        7           264.820     2.721    0.014
Residual                 7883.914       81            97.332

Total                    9737.656       88           110.655
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  PROP by Group by Sex

                  VALUE
VARIABLE          LABEL        SUM              MEAN     STD DEV      VARIANCE    N

For Entire Population          3532.0000        35.3200  11.5984      134.5228    100

Group            Speakwrite    1794.0000        35.8800  11.5116      132.5159     50
     Sex           Male         957.0000        35.4444  10.9134      119.1026     27
     Sex           Female       837.0000        36.3913  12.4051      153.8854     23

Group            Writeonly     1738.0000        34.7600  11.7743      138.6531     50
     Sex           Male         739.0000        29.5600   8.2769       68.5067     25
     Sex           Female       999.0000        39.9600  12.5780      158.2067     25

Total Cases = 100
```

Though no significant differences could be determined by sex between groups, females as a whole produced 17 per cent more propositions than males. Speakwrite females wrote almost 3 per cent more than Speakwrite males, and Writeonly females wrote 35 per cent more than Writeonly males. Spekawrite females wrote almost 10 per cent fewer propositions than Writeonly females, but Speakwrite males wrote 20 per cent more propositions more propositions than their Writeonly counterparts.

```
ANOVA:  PROP by Group by Ethnic


                          SUM OF                     MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES        DF          SQUARE        F       OF F

Main Effects              580.382         4          145.096     1.068     0.377
     Group                 57.530         1           57.530     0.424     0.517
     Ethnic               549.022         3          183.007     1.347     0.264
2-Way Interactions        105.624         2           52.812     0.389     0.679
     Group  Ethnic        105.624         2           52.812     0.389     0.679
Explained                 686.008         6          114.335     0.842     0.541
Residual                12631.613        93          135.824

Total                   13317.621        99          134.521
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  PROP by Group by Ethnic

                  VALUE
VARIABLE          LABEL       SUM              MEAN        STD DEV     VARIANCE    N

For Entire Population         3532.0000        35.3200     11.5984     134.5228    100

Group          Speakwrite     1794.0000        35.8800     11.5116     132.5159     50
    Anglo                     1553.0000        36.9762     11.9399     142.5604     42
    Hispanic                   130.0000   [illegible].5000  7.1880      51.6667      4
    Black                       87.0000   [illegible].0000  7.5498      57.0000      3
    Asian                       24.0000   [illegible].0000  0.0          0.0         1

Group          Writeonly      1738.0000        34.7600     11.7743     138.6351     50
    Anglo                     1561.0000        35.4773     11.8782     141.0925     44
    Hispanic                    21.0000        21.0000      0.0          0.0         1
    Black                      156.0000        31.2000     10.6160     112.7000      5

Total Cases = 100
```

```
ANOVA:  PROPT by Group by Sess (a) all sessions considered

                           SUM OF                    MEAN                    SIGNIF
SOURCE OF VARIATION        SQUARES        DF         SQUARE         F        OF F

Main Effects               0.419           5         0.084        1.117      0.357
    Group                  0.092           1         0.092        1.221      0.272
    Sess                   0.257           4         0.064        0.855      0.494
2-Way Interactions         0.203           3         0.068        0.902      0.444
    Group    Sess          0.203           3         0.068        0.902      0.444
Explained                  0.622           8         0.078        1.036      0.415
Residual                   6.833          91         0.075

Total                      7.455          99         0.075
    100 cases were processed
      0 cases (0.0 pct.) were missing
```

```
ANOVA:  PROPT by Group by Sess (b) Session 5 excluded

                           SUM OF                     MEAN                   SIGNIF
SOURCE OF VARIATION        SQUARES        DF          SQUARE         F       OF F

Main Effects               0.272           4          0.068        0.984     0.421
     Group                 0.092           1          0.092        1.327     0.253
     Sess                  0.190           3          0.063        0.916     0.437
2-Way Interactions         0.203           3          0.068        0.980     0.406
     Group    Sess         0.203           3          0.068        0.980     0.406
Explained                  0.475           7          0.068        0.982     0.450
Residual                   5.596          81          0.069

Total                      6.071          88          0.069
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  PROPT by Group by Sess (a) all sessions considered

               VALUE
VARIABLE       LABEL        SUM             MEAN        STD DEV      VARIANCE      N

For Entire Population       144.2533        1.4425      0.2744       0.0753      100

Group          Speakwrite    70.1109        1.4022      0.2560       0.0656       50
     Session 1               18.2758        1.4058      0.3380       0.1142       13
     Session 2               15.6882        1.3074      0.2443       0.0597       12
     Session 3               16.5883        1.3824      0.2263       0.0512       12
     Session 4               19.5585        1.5045      0.1862       0.0310       13

Group          Writeonly     74.1424        1.4828      0.2886       0.0833       50
     Session 1               15.6888        1.4263      0.2274       0.0517       11
     Session 2               12.4277        1.5535      0.4016       0.1613        8
     Session 3               15.3851        1.3986      0.2814       0.0792       11
     Session 4               13.5713        1.5079      0.1562       0.0244        9
     Session 5               17.0695        1.5518      0.3516       0.1236       11

Total Cases = 100
```

No significant differences in the number of propositions per T-unit were determined between groups or among sessions.

```
ANOVA:  PROPT by Group by Sex

                           SUM OF                  MEAN                SIGNIF
SOURCE OF VARIATION        SQUARES        DF       SQUARE        F     OF F

Main Effects               0.166           2       0.083       1.129   0.328
     Group                 0.160           1       0.160       2.174   0.144
     Sex                   0.004           1       0.004       0.053   0.819
2-Way Interactions         0.214           1       0.214       2.909   0.091
     Group     Sex         0.214           1       0.214       2.909   0.091
Explained                  0.381           3       0.127       1.722   0.168
Residual                   7.074          96       0.074

Total                      7.455          99       0.075
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  PROPT by Group by Sex

               VALUE
VARIABLE       LABEL        SUM              MEAN      STD DEV     VARIANCE     N

For Entire Population     144.2533          1.4425    0.2744      0.0753     100

Group         Speakwrite   70.1109          1.4022    0.2560      0.0656      50
     Sex        Male       38.8603          1.4393    0.2690      0.0723      27
     Sex        Female     31.2505          1.3587    0.2384      0.0569      23

Group         Writeonly    74.1424          1.4828    0.2886      0.0833      50
     Sex        Male       35.7596          1.4304    0.2609      0.0681      25
     Sex        Female     38.3829          1.5353    0.3102      0.0962      25

Total Cases = 100
```

Again, no significance in the differnces in propositions per T-unit could be determined by sex between groups or between sexes notwithstanding groups.

```
ANOVA:  PROPT by Group by Ethnic

                           SUM OF                  MEAN                 SIGNIF
SOURCE OF VARIATION        SQUARES       DF        SQUARE        F      OF F

Main Effects               0.507          4        0.127       1.751    0.146
     Group                 0.132          1        0.132       1.829    0.179
     Ethnic                0.345          3        0.115       1.586    0.198
2-Way Interactions         0.214          2        0.107       1.476    0.234
     Group  Ethnic         0.214          2        0.107       1.476    0.234
Explained                  0.721          6        0.120       1.659    0.140
Residual                   6.734         93        0.072

Total                      7.455         99        0.075
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  PROPT by Group by Ethnic

               VALUE
VARIABLE       LABEL      SUM             MEAN       STD DEV     VARIANCE     N

For Entire Population     144.2533        1.4425     0.2744      0.0753      100

Group        Speakwrite    70.1109        1.4022     0.2560      0.0656       50
     Anglo                 58.5972        1.3952     0.2241      0.0502       42
     Hispanic               6.3728        1.5932     0.3969      0.1576        4
     Black                  4.1808        1.3936     0.4097      0.1678        3
     Asian                  0.9600        0.9600     0.0         0.0           1

Group        Writeonly     74.1424        1.4828     0.2886      0.0833       50
     Anglo                 64.6415        1.4691     0.2760      0.0762       44
     Hispanic               1.2353        1.2353     0.0         0.0           1
     Black                  8.2656        1.6531     0.3842      0.1476        5

Total Cases = 100
```

```
ANOVA:  HOL by Group by Sess (a) all sessions considered

                            SUM OF                   MEAN                  SIGNIF
SOURCE OF VARIATION         SQUARES        DF        SQUARE        F       OF F

Main Effects                365.961         5         73.192      2.283    0.053
     Group                  209.771         1        209.771      6.542    0.012
     Sess                   231.402         4         57.850      1.804    0.135
2-Way Interactions          202.063         3         67.354      2.101    0.106
     Group    Sess          202.063         3         67.354      2.101    0.106
Explained                   568.024         8         71.003      2.214    0.033
Residual                   2917.724        91         32.063

Total                      3485.748        99         35.210
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
ANOVA:  HOL by Group by Sess (b)  Session 5 excluded

                            SUM OF                   MEAN                  SIGNIF
SOURCE OF VARIATION         SQUARES        DF        SQUARE        F       OF F

Main Effects                338.085         4         84.521      2.609    0.042
     Group                  209.771         1        209.771      6.475    0.013
     Sess                   131.481         3         43.827      1.353    0.263
2-Way Interactions          202.063         3         67.354      2.079    0.109
     Group    Sess          202.063         3         67.354      2.079    0.109
Explained                   540.148         7         77.164      2.382    0.029
Residual                   2624.089        81         32.396

Total                      3164.237        88         35.957
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
ANOVA:  HOL by Group by Sess (a) all sessions considered

                          SUM OF                  MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES       DF        SQUARE        F       OF F

Main Effects               365.961       5         73.192     2.283     0.053
     Group                 209.771       1        209.771     6.542     0.012
     Sess                  231.402       4         57.850     1.804     0.135
2-Way Interactions         202.063       3         67.354     2.101     0.106
     Group    Sess         202.063       3         67.354     2.101     0.106
Explained                  568.024       8         71.003     2.214     0.033
Residual                  2917.724      91         32.063

Total                     3485.748      99         35.210
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

Excluding Session 5, Speakwrites as a whole ranked higher on holistic evaluations than Writeonlys by a margin of almost 21 per cent ($p < .02$). Though no significance in differences could be demonstrated among individual sessions between groups, all Speakwrites from individual sessions, except for Session 3, were ranked higher than their Writeonly counterparts, ranging from 54 per cent higher (Session 2) to 19 per cent higher (Session 4).

```
ANOVA:  HOL by Group by Sess (b)  Session 5 excluded

                          SUM OF                  MEAN                  SIGNIF
SOURCE OF VARIATION       SQUARES       DF        SQUARE        F       OF F

Main Effects               338.085       4         84.521     2.609     0.042
     Group                 209.771       1        209.771     6.475     0.013
     Sess                  131.481       3         43.827     1.353     0.263
2-Way Interactions         202.063       3         67.354     2.079     0.109
     Group    Sess         202.063       3         67.354     2.079     0.109
Explained                  540.148       7         77.164     2.382     0.029
Residual                  2624.089      81         32.396

Total                     3164.237      88         35.957
     100 cases were processed
      11 cases (11.0 pct.) were missing
```

```
BREAKDOWN:  HOL by Group by Sex

                 VALUE
VARIABLE         LABEL       SUM          MEAN       STD DEV     VARIANCE    N

For Entire Population       1768.0000     17.6800    5.9338      35.2097    100

Group          Speakwrite    942.0000     18.8400    5.9466      35.3616     50
     Sex         Male        466.0000     17.2593    6.3706      40.5840     27
     Sex         Female      476.0000     20.6957    4.9123      24.1304     23

Group          Writeonly     826.0000     16.5200    5.7472      33.0302     50
     Sex         Male        365.0000     14.6000    5.9652      35.5833     25
     Sex         Female      461.0000     18.4400    4.9166      24.1733     25

Total Cases = 100
```

Both male and female Speakwrites were ranked higher holistically than Writeonly males and females by 18 per cent and 12 per cent respectively (p < .01). In addition, Speakwrite females ranked higher than Speakwrite males by 20 per cent, as did Writeonly females over Writeonly males, but by a margin of 26 per cent.

```
 ANOVA:  HOL by Group by Ethnic

                      SUM OF                 MEAN                  SIGNIF
SOURCE OF VARIATION   SQUARES       DF       SQUARE       F        OF F

Main Effects           433.029       4       108.257     3.342     0.013
     Group             101.628       1       101.628     3.137     0.080
     Ethnic            298.469       3        99.490     3.071     0.032
2-Way Interactions      39.979       2        19.989     0.617     0.542
     Group  Ethnic      39.979       2        19.989     0.617     0.542
Explained              473.008       6        78.835     2.434     0.031
Residual              3012.740      93        32.395

Total                 3485.748      99        35.210
     100 cases were processed
       0 cases (0.0 pct.) were missing
```

```
BREAKDOWN:  HOL by Group by Ethnic

                VALUE
VARIABLE        LABEL       SUM           MEAN       STD DEV     VARIANCE     N

For Entire Population       1768.0000     17.6800    5.9338      35.2097    100

Group          Speakwrite    942.0000     18.8400    5.9466      35.3616     50
     Anglo                   811.0000     19.3095    5.8204      33.8775     42
     Hispanic                 84.0000     21.0000    3.1623      10.0000      4
     Black                    31.0000     10.3333    5.5076      30.3333      3
     Asian                    16.0000     16.0000    0.0          0.0         1

Group          Writeonly     826.0000     16.5200    5.7472      33.0302     50
     Anglo                   746.0000     16.9545    5.8188      33.8584     44
     Hispanic                 17.0000     17.0000    0.0          0.0         1
     Black                    63.0000     12.6000    4.3932      19.3000      5

Total Cases = 100
```

Correlations

Pearson correlations were run to determine to what degree and in which direction ratings of dependent, quantifiable variables correlated with holistic evaluations and evaluation of mechanics. Also, a correlation test was run on the relationship between holistic evaluations and the subjects' verbal composite scores on the Washington Pre-College Test. Finally, correlations were run on the relationship between written (designated below as 1) and spoken (designated below as 2) responses for the Speakwrite subjects. However, only those moderate to strong correlations are reported below, and they are discussed in the next section, DISCUSSION.

Corr: Verbal Composite with Holistic (Hol) and Mechanics (Mx) Scores

```
Hol     0.3738
        (   96)
        p=0.000

Mx      0.3428
        (   96)
        p=0.000
```

Corr: Words with Hol, Mx

Hol 0.4017
(100)
p=0.000

Mx 0.0463
(100)
p=0.324

Corr: Propositions with Hol, Mx

Hol 0.3552
(100)
p=0.000

Mx (Weak positive)

Corr: T-units 1 with T-units 2

0.325
(50)
p=0.000

Corr: Propositions 1 with Props 2

0.190
(50)
p=0.000

Corr: T-units with Hol, Mx

Hol 0.3121
(100)
p=0.001

Mx (Weak negative)

Corr: Words 1 with Words 2

0.259
(50)
p=0.000

Corr: Words/T-unit 1 with W/T 2

0.415
(50)
p=0.000

Corr: Props/T-unit 1 with Props/T 2

0.268
(50)
p=0.000

DISCUSSION

The RESULTS provide strong support for one of the main hypotheses of the research: speaking about a particular topic, in a controlled situation, will prove beneficial to subsequent writing on the same topic. After holistic evaluation of quality (as explained under METHOD), the experimental subjects (Speakwrites) achieved a mean holistic score of 18.84 as opposed to the control subjects' (Writeonlys) mean score of 16.52 (including Session 5). If we exclude Session 5, the mean for Writeonlys drops to 15.60, a difference overall of 21 per cent ($p < .02$). Clearly, in the opinion of 10 outside evaluators (all of whom had had at least 5 years of experience in teaching writing), the quality of the Speakwrites' essays in ideas, support, development, organization, etc. was higher than the Writeonlys'. Their evaluations also showed that females in general wrote qualitatively superior responses to males, but that male Speakwrites ranked higher than Writeonly males. At least for this experimental situation, then, the experience of having to talk about a topic in a one-to-one situation proved to be generally and signficantly beneficial.

The amount of semantic transfer from the oral mode to the written, as discussed in detail below, also indicates that Speakwrite subjects are able to remember and write about certain ideas they have previously discussed with interviewers. This suggests that a sense of audience, which is otherwise lacking or insufficiently developed in poor writers, was enhanced by the experimental technique.

The RESULTS also indicate that for certain accepted measures of fluency, such as number of words and number and length of T-units, number and kinds of subordinate clauses, and number of propositions, the Speakwrites performed better than the Writeonlys. We were also able to determine that females generally scored higher than males on these quantifiable variables, but more specifically, scores for Speakwrite males and females almost always exceeded scores for Writeonly males and females, though often to no signifcant level. Finally, certain sessions of the experiment performed better than others, but also largely to no significant level. The highlights of these results, with interpretations are presented below.

Though it has been noted earlier, it should be reiterated here that the peculiar demographics of Washington State University provided for an uneven distribution of ethnic categories, so that no statistical significance at all could be determined for differences among ethnic categories. Though those differences for every variable are presented in the RESULTS, they are done so without comment.

Words

Speakwrites wrote almost 17 per cent more words than the Writeonlys

($p < .005$), thus suggesting that the experimental technique of speaking before writing encourages greater fluency as measured by mere production of words.

Females as a whole wrote 15 per cent more words than males ($p < .02$). Females Writeonlys, however, wrote 6 per cent more than their Speakwrite counterparts, whereas the reverse was true of males: the Speakwrites wrote 13 per cent more than the Writeonlys. But more interesting, perhaps, is the fact that the difference between male and female production was substantially narrower among Sepakwrites (4 per cent) than among Writeonlys (22 per cent), suggesting that the experimental technique benefited male fluency more than female fluency.

It should be noted here again that differences between sessions by and large did not prove to be statistically significant, and that by adding Session 5 (explained in RESULTS) the results were skewed in favor of the Writeonlys. We can only conjecture about why Session 5 did so much better than any other : 1) Session 5 happened at 2:00 P.M., after morning classes, in a one credit course, after the lunch hours (11:30 - 1:30), both of which cause problems in student attention, and were taught by seasoned instructors. Sessions 1 and 3, which did generally worse than the others, met at 8:00 A.M., and were taught by new instructors, who may not have been secure in their relationsiip with their students, or may not have completely appreciated or understood the nature of the research. In any case, since Session 5's performance was so much better relatively in many regards, and was included only to make up for a few lacking Writeonly subjects, we believe the report of the population's behavior to be more meaningful by excluding them. This decision, of course, required a calculation and comparison of means different from those produced by computer analysis, especially in the breakdowns of means by session and by groups. Therefore, where signficance levels are given, we have specified where appropriate, the inclusion or exclusion of Session 5.

T-units

Excluding Session 5, Speakwrites also produced almost 23 per cent more T-units than the Writeonlys ($p < .01$), suggesting again that for this now fundamental measure of syntactic arrangement, the experimental technique encouraged greater fluency.

Similar to word production, females wrote 15 per cent more T-units than males, but again the differnce was narrowed between Speakwrite males and females (5 per cent) and Writeonly males and females (22 per cent). Speakwrite males again wrote more than Writeonly males, 25.37 versus 21.08, a difference of 15 per cent.

The fact that the means for females of both groups were almost identical adds support to the idea that Speakwrite males benefited more from speaking before writing.

As indicated in the RESULTS, the differences in the length of T-units proved not to be significant, but the fact that Writeonlys produced slightly longer T-units (3 per cent longer) supports the theory that as more T-units are written, in a limited time, which was true of the Speakwrites in this case, the shorter they become. This holds true also of the differences between sexes on this count: at least for the Speakwrites, females wrote more, but shorter T-units than males.

Subordinate Clauses

Since subordination has for some time been considered an indication of maturity in writing, we analyzed carefully its incidence in the raw data. Not only did we tally the total number of subordinate clauses, but also their incidence per T-unit, and the total number of kinds of clauses: noun, adjectival, and adverbial. In addition, we were interested in knowing the proportions of any one kind of clause in the total number of clauses in both written and oral responses in order to compare the use of subordination in the two modes.

We found almost immediately that a measure of clauses per T-unit was practically meaningless. The means for both groups, sexes, and all sessions were very close to each other and no statistical significance at all could be determined.

However, there were significant differences between the means of total number of clauses: the Speakwrites wrote 19.06 clauses versus the Writeonlys' 15.15 (excluding Session 5), a difference of 25 per cent ($p < .01$). All Speakwrites from individual sessions also wrote more subordinate clauses than their respective Writeonly counterparts, though no significance could be demonstrated.

As a contributing factor to the level of fluency (and maturity), the incidence of subordination can be seen as having been encouraged by the experimental technique, especially in light of the incidence of subrodination in the Speakwrites' oral reponses (see below).

The same general trend can be seen for differences between sexes, females as a whole producing 26 per cent more subordinate clauses than males ($p < .01$). And again the differences between males and females was narrowed in the Speakwrites (12 per cent) as compared to the Writeonlys (44 per cent).

Kinds and Proportions of Subordinate Clauses

Since we have already demonstrated that Speakwrites exceeded Writeonlys in total incidence of subordination, it is perhaps somewhat gratuitous to point out that they also exceeded the Writeonlys in counts of the various kinds, and generally to significant levels (see RESULTS). What is more interesting, though no significance could be demonstrated, is that males exceeded females for the first and only time in the production of this kind of quantifiable variable. Speakwrite males wrote almost 2 per cent more noun clauses than Speakwrite females. This, considered in light of the proportion of noun clauses in both spoken and written reponses, suggests that Speakwrite males were more highly influenced by the circumstances of the experiment.

First, it needs to be pointed out that raters found the overwhelming number of noun clauses for both groups and sexes to be formulated after independent clauses such as "I guess," "I think," "It's my opinion," and "The film showed," which show less sophistication in the use of subordination, and perhaps less security in verbal expression, in general, than the use of adjectival and adverbial clauses shows. This is reasonable to assume, especially when we take into account the proportions of various subordinate clauses in written responses: the mean for all subjects in the use of noun clauses was 43.05 per cent; for Speakwrites as a whole it was 40 per cent; for Writeonlys it was 38.99 per cent; for Speakwrite males it was 42.52 per cent, and for females 37.06 per cent. Speakwrite males, in their interviews, spoke 48.13 per cent noun clauses, females 52.54 per cent, a difference of 4.41 per cent. But in their written responses the difference was wider: 5.46 more in favor of the males. This means that females edited out more of the "I guess," "I think," "It's my opinion" constructions from their writing than did the males, or that males retained more of what is more common in speaking (given an interview situation) than would, or should, be common in writing. It is difficult to say, given the working hypotheses of the experiment, which situation is more desirable: greater retention of what and how something was said in the interview, or the more conscious editing of what and how something was said. But since females generally performed better than males in all measures, including the holistic evaluation, we can conclude only that, notwithstanding the sense of immediate audience the experiment was designed to promote, the greater use of more sophisticated forms is preferable.

This kind of conclusion is further supported by the differences in proportions of adjectival clauses used in oral and written responses. In this case, the reverse was true, both males and females writing proportionately more adjectival clauses (6 per cent and almost 11 per cent respectively) than they spoke. With the preponderance of noun clauses sponsored by "I guess," "I think" constructions, we can assume that the use of adjectival clauses that modify or qualify nominals represents greater sophistication or maturity, especially when the incidence of use increases in writing after speaking. The increase of adjectival clauses in writing would indicate at least that they are more consciously a part of subordination in writing than they are in speaking, and that this is more so the case, given the results, with females than with males. We can also say that prior speaking tended to encourage adjectival subordination, since Speakwrites as a whole wrote 2.04 per cent more adjectival clauses than the Writeonlys ($p < .001$).

Though the incidence of adverbial subordination was greater for both groups, the same differences could be seen between groups. Speakwrites as a whole wrote 2.77 per cent more adverbial clauses than the Writeonlys, though no signficance could be determined. Also, almost the same relaitonship existed between sexes, females generally writing more adverbial clauses than males. And for the Speakwrites, females again wrote more (4.78 per cent) than they spoke, whereas the figures for males were almost identical. Though these results were not statistically significant, they point to the greater use of adverbial suordination over adjectival, and help to support the notion, more firmly established earlier, that speaking before writing encourages greater sophistication in subsequent writing.

Propositions

The only quantifiable semantic measure was the number of porpositions (as explained in METHOD). Since Speakwrites as a whole wrote almost 18 per cent more propositons than Writeonlys ($p < .02$) and since all Speakwrites from individual sessions wrote more propositons than their Writeonly counterparts ($p < .02$), it can be safely concluded that greater semantic content was encouraged by the experimental technique.

The differences between sexes were also generally the same. Females as a whole wrote 7 per cent more propositions than males. Likewise, Speakwrite males wrote 20 per cent more propositions than Writeonly males, whereas the reverse was true of females: the Speakwrites wrote almost 10 per cent fewer propositions than Writeonly females. This seeming anomaly might be explained by the differences between Speakwrite and Writeonly females in scores of number of words, number of T-units, and in holistic evaluations. Since Speakwrite females wrote fewer words, T-units, and propositions, but achieved higher holistic evaluations than Writeonly females, it can be assumed that the Speakwrites wrote with greater, meaningful economy. Therfore, a lower per centage of propositions means ultimately that there was less padding and more semantic value, as determined holisticaly, in their written responses than in those of their Writeonly counterparts.

Pearson Correlations

The correlations tell us what might be expected: the higher the verbal composite score on the Washington Pre-College Test the higher the holistic and mechanics ratings are likely to be. The same was true of production of words, T-units, and propostions, as least with regard to the holistic scores.

We also found by correlating the Speakwrites' scores on spoken and written responses that their is a positive, moderately strong relationship between number of words, T-units, Words/T-unit, propositions, and propostions/T-unit between the two modes. This adds another measure of confidence to the idea that prior speaking on a topic benefits the fluency of subsequent writing on the topic.

Semantic Transfer from Oral to Written Modes

The qualitative effects of prior oral exposition on written exposition can best be determined by first comparing written responses (essays) with oral transcripts, at both high and low levels of the holistic evaluation scale, and then comparing high and low level responses to each other. Of particular concern are the nature and number of ideas that transferred from the oral mode to the written, the organization of these ideas in both modes, any development of transferred ideas, and distinctive characteristics of expression.

Two of the essays of the Speakwrite group received high holistic ratings (HOLSUM = 28), and one received a low holistic rating (HOLSUM = 8). Individual analyses of these essays follow.

Essay x 1 (HOLSUM = 28)

Since propositions, as defined in METHOD, are a quantitative measure of ideas (or meaningful expressions), a comparison of the numbers of propositions contained in the oral transcript and in the essay provides some indication of the transfer of ideas from the oral mode to the written. Essay x 1 contains 36 propositions, and its corresponding oral transcript contains 67. In purely quantitative terms, 54 per cent of the ideas of the transcribed interview carried over to the essay. However, the signficance of this percentage is questionable without an analysis of the correspondence of propositions. In other words, how many of the propositions expressed in the essay are similar or identical to those expressed in the interview?

The essay and its corresponding oral transcript were checked for this identification of ideas. For example, in the transcript the statement

"Americans are gluttons for resources,"

corresponds with

"Americans are the worlds resource gluttens,"

in the written essay. In Essay x 1, 15 of the propositions demonstrate this transfer from the oral situation, three of which were ideas generated by the interviewer. However, if we do not count statements not specific to the topic, such as

"They told us in my environmental science class,"

as propositions in the transcript, the number of propositions is reduced to 48.

In essence, then, 25 per cent of the topic-specific ideas expressed by the subject in the interview were transferred to the essay. Twenty per cent of the total transferred ideas originated with the interviewer, and were statements of fact quoted from the film stimulus, such as,

> "The U.S. only has about 6 per cent of the world's population, yet we use up about half of the world's resources."

Twenty-eight per cent of the ideas expessed in the interview were not specific to the topic, though all of the ideas expressed in the essay were.

The organization of the transferred ideas in the essay, with a few exceptions, had the same sequential arrangement as the interview. The ideas were little further developed in the essay than in the transcript, and in most instances the ideas were transferred virtually verbatim to the essay. Also, very few of the subject's distinctive speech characteristics seemed to transfer to the essay, making it seem likely the subject had some awareness of the differences in the conventions of expression between oral and written modes. (See Appendix II for reproductions of both the oral transcript and the essay.)

Essay x48 (HOLSUM = 28)

Essay x 48 contains 39 propositions and its corresponding oral transcript 119. Fourteen of the propositions demonstrate direct transfer from the oral situation, one of which was a statement generated by the interviewer. The number of propositions in the transcript specific to the topic is reduced to 63 of the total 119. Thus, 21 per cent of the topic-specific ideas expressed in the interview by the subject were transferred to the essay, 7 per cent of the total transferred ideas originated with the interviewer, and 47 per cent of the ideas expressed in the interview were not specific to the topic. As with the previous case, the transferred interviewer statement was quoted from the film stimulus, and all of the ideas expressed in the essay were specific to the topic.

In the essay, the organization of the transferred ideas was somewhat similar to the sequential arrangement in the interview. However, in terms of organization alone, Essay x 48 was clearly inferior to Essay x 1. This might be explained by the fact that Essay x 1 had more interviewer-originated ideas, which may have helped, as the interview was intended to do, to organize topics.

In Essay x 48, many of the transferred ideas were further developed or elaborated in the essay. For example, the interview statement,

> " . . . the government paying the farmers not to grow food,"

is developed in the essay as,

> " . . . rather the farmers are given money to not plant or to burn their production."

In this case, since many of the transferred ideas were developed or altered in some way, it follows that very few of the subject's distinctive speech characteristics carried over to the essay, also suggesting an awareness of the differences in conventions between oral and written modes (see Appendix II).

Essay x 5 (HOLSUM = 8)

Essay x 5 contains 27 propositions and its corresponding transcript contains 167 propositions. Only six of the propositions in the essay demonstrate direct transfer from the oral situation, and of the six, two originated as interviewer statements. The number of propositions in the transcript specific to the topic is 117 of the total 167. Only 3 per cent of the topic-specific ideas expressed in the interview by the subject were transferred to the essay, and 33 per cent of the total number of ideas transferred origniated with the interviewer. But only 30 per cent of the ideas expressed in the interview were not specific to the topic. Unlike the previous cases, the transferred interviewer statements were not statements of fact quoted from the film, but explanations of the film to the subject, though all of the ideas expressed in the essay were specific to the topic.

The organization of transferred ideas in the essay was similar to the chronology of expression in the inteview, but the ideas were so few and were transferred from such widely disparate parts of the interview that the organization of the essay is extremely poor. None of the transferred ideas was developed or elaborated. In fact, there appears to be an inordinate condensation of expression in the essay, resulting in very simple sentence structure. Many of the subject's speech characteristics seemed apparent in the essay (see Appendix II), and might have been more so, but the simple sentence structure suggests that the subject was selecting only those words he could spell and constructions he was familiar with. In this sense, the subject may have been aware of the differences in conventions between speech and writing, but he chose to approximate speech in writing, and at the same time restricted his writing to a very elementary style.

Comparison of High and Low Holistic Performances

Five other essays and their corresponding transcripts were examined (two received holistic ratings of 27, and three received ratings of 9) to determine if the characteristics apparent in the rating extremes could be verified in essays of near-extreme ratings. The results validated early conjectures, and the following effects of the speakwrite technique were observed in all cases:

1. In those essays where the percentage of ideas transferred

from the oral situation constituted at least 20 per cent of the total ideas apparent in the essay, the holistic ratings were always in the medium-high to high categories. Those essays containing fewer than 10 per cent transferred generally received low holistic ratings.

2. In all cases, essays receiving high holistic ratings contained ideas that were further developed or elaborated from the oral situation. Essays receiving low holistic ratings rarely demonstrated this development or elaboration.

3. Those essays receiving high holistic ratings showed more ideas borrowed from the interviewer, though these were always statements of fact quoted from the film. Low scoring essays, when using interviewer-originated ideas, always borrowed explanations or declarative "prompts" from the interviewer. Also, a greater percentage of transferred ideas originated with the interviewer, though in general these essays contained a lower total percentage of transferred ideas.

4. Many of the transferred ideas in the essays with high holistic scores, if not developed or elaborated, appeared practically verbatim from the interview. Transferred ideas in essays with low holistic scores, however, usually showed evidence of reduction or condensation, and not to the advantage of the expression.

5. Organizationally, essays with high holistic scores showed some similarity to the sequence of the interview. Low scoring essays also showed some similarity, but it was usually very diffuse, suggesting a recall of gross chronology, but not logical development.

6. More of the subjects' speech characteristics (particularly those that were not grammatically standard) transferred into those essays that received low holistic ratings. However, there also appeared a difference in the speech of the two groups (holistically high and low); those receiving high holistic ratings in the essays seemed to have more standard speech habits, as shown in the oral transcripts, than those receiving low holistic ratings.

SUMMARY OF DISCUSSION

In general, we can conclude with conviction that the speakwrite experimental technique proved beneficial to the writing of the experimental subjects. Not only did their fluency in use of certain quantifiable variables prove to be greater than the control group, but judged holistically their essays were of higher quality in terms of sophistication and number of ideas expressed, development, and organization. In addition, the prior oral exposition appeared to stimulate thinking, judging by the amount of semantic transfer from the oral transcripts to the essays, and it appeared to facilitate organization, judging by the similarity of written organization to that of the interview-directed conversation. Finally, though the interview prompted semantic and structual benefits, subjects, at least with high holistic scores, nevertheless recognized the differences in conventions between speaking and writing and edited much of their oral production to approximate, at least, standard conventions of writing.

NEEDS FOR FUTURE RESEARCH

The next logical step in research of this kind is pedagogical or curricular application. A curriculum that emphasizes one-to-one oral exposition, taperecorded for later analysis, as the primary means of prewriting, needs to be tested and compared to curricula that emphasize more individual, internalized means of prewriting. Students need to be trained in interviewing each other, so that the one-to-one relationship is maintained, but at the same time is relieved of strict student-teacher orientation and direction, a logistical problem at least, under this method, and a pedagogical problem in that it limits unrealistically the possibilities for audience.

Such a curriculum is now being testing at Washingston State University in their developmental writing program, but on a limited basis. Only one class of 16 students has been made available as the experimental group. However, there are five other remedial writing classes, working under a more conventional developmental writing curriculum, to which the work of the experimental group can be compared. Through a pre-post testing procedure, the differences, if any, in performance between groups will be determined. But without greater institutional or extramural support, continued testing and analysis will have to remain modest.

APPENDIX I:

INSTRUCTIONS TO EVALUATORS AND BOUNDARY ESSAYS

NIE ORAL/WRITTEN PROJECT
Washington State University
Pullman, Washington 99164-5020

FORMAL HOLISTIC EVALUATION

SCALE:

	8	
HIGH	7	Essay # z 11
MEDIUM	6	
HIGH	5	Essay # z 6
MEDIUM	4	
LOW	3	Essay # z 20
LOW	2	
	1	

CRITERIA:

Ideas
Support
Organization
Diction
Syntax
Audience Awareness
===================
Mechanics

DIRECTIONS:

1. Give one rating on the scale of 1-8 based upon the criteria which are listed above the double line. Give a separate rating rating on the same scale for mechanics. Record the overall score above the subject's code number. Record the mechanics score below the overall rating. Example:

   7 Overall rating
   4 Mechanics rating

   z 46 Subject Code Number

   Keep a separate list of code numbers with ratings and supply us with a copy.

2. Use the boundary essays as your guides- frequently at the beginning and then as you have doubts later.

3. Spend no more than an hour on any group of 10 essays.

4. Use all of the ratings. Remember that they refer to the spread of quality within these essays, as controlled by the boundary essays, not within the student writing with which you may be familiar. An 8 is not the best student writing that you know; a one is not necessarily the worst. 8's and 1's have to exist in these papers, by stipulation.

5. Do not confer with fellow evaluators before or during your reading.

I think that the united states should have more of a organized food drive or organization that is put aside for people like we just saw in this film.

I feel that there is enough food on this planet for everybody. I don't think that there should even be any exuse for some people to die of starvation.

I think that the film brought up some very important points on food consumption. I think that the consumption can be reduced if some kind of program was set up. When you stop and think about it, it's really sad when you see the people who consume the amount of food for about 3 Big people and then on the other end there's people who don't have anything except flesh right down to their bones and rib cages.

Im sure that if everybody saw this film that they would want to help contribute and send food to where it is needed to keep people alive.

The topic of waiste is one of the main problems in the U. S. I feel. all the food that we waist could of been the food that kept those people living and we just eat what we want & throw the rest away. I don't know for sure what the acrage of yardage of grain is that we grow but I'd sure think that if we had workers that would salvage every last bit off of those fields and not waiste any then there would be enough to feed those people from Africa, India, Cambodia, etc. I think the main problem is waiste and the next one down the line is food consumption. We have to many people who consume overly, just too much, Some people here I bet consume enough in one Dinner here in the U. S. to feed about 20 people for a couple of Days.

The people that are starving aren't going to live very long because the grain that they eat has nothing in it as far as protien goes in. I don't see many of them living very long if they stay with the same eating conditions.

The food consumption could be cut way down here in the U. S. open up to possibilities for the starving ones to recieve food. If the distribution is corrected I feel we could be getting a lot more food to them in the future. If this was broadcasted on T. V. and they said if they could get $5 worth of food to contribute to this fund from every household that would just about do it good for a while, thats all it would take. But every household would have to contribute unless.

Americans produce one-third of the food resources of the world. We, (Americans), have the richest lands in the world to produce these foods. Their's great amount of surplus of these food resources. All the needs of most Americans are right at the newest supermarket. Their are 80,000 items to choose from. Most Americans can not and will not eat the same meal they ate the day before. We are also the leading country that consumes a great amount of meat. We use fifteen pounds of grains to produce a pound of lean beef and ten pounds of corn to produce one pound of poultry. This is alot of wheat and corn to be used for protien rich meats. The average american gets twice the amount of protien needs daily!

We are leading country wastes more food then any other country in the world. for every ten pounds that is eaten, one pound is thrown away. that's like throwing away fifteen pounds of grain. The average american throws away ten pounds of garbage each day. This country is going to run out of places to throw away their garbage. Then what? Ship all the garbage to other countries?

The food resources of the world are totally unequal. The third world countries don't have the Ideal weather of rich soils to produce food resources. Some countries in Africa are in a drought period, that have been going on for years. These countries have been in state of stravtion for years.

The Americans should cut back on their consumtion of meats. It's unreal the way we americans consume meat. We have to ha[illegible] every meal. Breakfast, lunch, and dinner, nothing but meats. Most Americans are unaware of their meat consumtion. The only time we become more aware, it's when the price of meats go up. We can't continue this way. Because, of over eating protien, and fat meats, many Americans are becoming unfit, unhealthy and over weight.

We can't ignore the third world. We are suppose to be the country that always helps smaler and economic deprived countries. If, We ate less meats and send the surplus to the

z 20
Session 5

This, in my opinion was a great film. It brings up many controverseal point. Consumption of food. You can look at this problem in many different ways. Yeat the problem views us in different ways Yeat. To convince your self that you have choosen the right view is the trick.

One way which you (the film) might be doing is the scear, fear tacktics. for example when you try to get someone to stop smoking you give them all the bad points of view, you actuly scare them.

This film definately needs to be shown more places and more times.

The American people ain't conscously aware of what we just saw, but subconsiouly they are. They know there are people dieing every 14 minutes but that is subconiouly. You and maybe me (but I think I'm caught up in it to much so I can't) need to bing the American people out of there dream. Show them the facts about these starving people. Most people my self included have never gone with out food ever. So we don't know what's it like to go hungry.

Another view which I have convinced my self that I like the best, which is my own theory is: Man kind was sent here to strive. Man kind is a mamal, all men are created equall. Man is a animal. Only the strong survive. This means you have to use your brain. Think. The potential is there you have to want it. or survive in large powerful group. When it all started (the human race) [people] had power in numbers and everything elese. (never mind) this

Anyway back to brain wave d8p Its a jungle in this world. Only the strong survive I dont have to be strong because I think, we use numbers (of peopl). My for-fathers used this theory so they built our/my world. I will not be able to follow in there steps. There is a new thing around it's called presures/stop [?] and DRUGS to escape these. presures. Our new generation or mine is decaying in the mind. This is why we can't concept what is going on around us. Each person has its own war in side his or her head. To survive you must support your beliefs in your head. I wish I had a couple of hours to write down my theory. This (what I wrote) is just the surface.

APPENDIX II:

ORAL TRANSCRIPTS AND CORRESPONDING ESSAYS OF SUBJECTS X 1, X 48, AND X 5

Respondent X1/Interviewer 11

I: SO YOU JUST SAW THE FILM CALLED "FOOD FOR A HUNGRY PLANET".

R: Yeah.

I: WHAT"D YOU THINK OF THAT?

R: Um, I don't know, to me it was kind of relevant because of our environmental science class that, we've been talkin' about human population dynamics and the world hunger situation and..

I: SO THAT SORT OF FIT RIGHT IN WITH...

R: Yeah, that Americans are gluttons for resources.

I: YEAH, UM, LET"S TALK ABOUT SOME OF THE THINGS YOU JUST SAW IN THE FILM. DO YOU REMEMBER WHEN THEY SAID AH, THAT AH, AMERICANS CONSUME TWICE THE AMOUNT OF PROTEIN THAT WE REALLY NEED? UM, AND THAT"S USING MEAT PRODUCTS AND OTHER PRODUCTS.

R: Grains.

I: YEAH. UM, DO WE AS AMERICANS FEEL THAT THAT"S NEEDED? THAT THAT HIGH AMOUNT OF PROTEIN.

R: Ah, I don't know if we feel it's needed but ah, it's it's there. Most the average family makes enough money that they can go out and you know, get a big roast for dinner or whatever. And, I think they feel it's a privilege not a...

I: YEAH, SO EVEN THOUGH THEY"RE ACTUALLY EATING AT LEAST ACCORDING TO THE FILM, THEY"RE EATING MORE PROTEIN THAN THEY REALLY NEED TO ...

R: Substain?

I: YEAH, THAT THEY, DO YOU THINK THAT"S, WE THINK THAT"S NECESSARY OR IT"S JUST THE WAY IT IS OR...

R: I think that's just the way it is. I don't think any, the average American gives it much thought.

I: YEAH, PEOPLE EAT A LOTTA MEAT AND STUFF.

R: They aren't really too concerned about it.

I: YEAH. IT ALSO SAID IN THE FILM THAT AH, OUT OF EVERY FOUR POUNDS OF FOOD, ONE POUND GOES INTO THE GARBAGE. REMEMBER WHEN IT SAID THAT?

R: Yeah, uh huh.

I: HOW WOULD YOU EXPLAIN THAT?

R: Oh, it's like when you go over to the POTO or whatever it is, grab lunch and a lotta guys'll get in there and they'll go up to the salad bar and scoop up a bunch of stuff and then they'll sit down and they'll, nah, I'm not hungry. And they'll just walk up and chuck it.

I: IS THAT WHERE YOU EAT?

R: Yeah.

I: THAT"S WHERE I EAT TOO. DO YOU THINK PEOPLE DO THAT AT HOME TOO?

R: Ah, to a certain extent, probably.

I: BUT, MAYBE NOT AS MUCH?

R: I think college cafeterias are pretty wasteful compared to...

I: WHAT ABOUT IN THE FILM WHERE IT SHOWED AH, THE SCENE IN THE RESTAURANT. REMEMBER ALL THOSE PEOPLE?

R: Yeah, I worked in a restaurant.

I: YEAH, WHAT DO YOU THINK ABOUT ALL THAT FOOD THEY SHOWED? WELL, YOU"VE SEEN IT.

R: Ah, I don't know, it seems kinda really stupid to me like some guy'll go out and spend 15 bucks on a good steak, you know and or his wife'll order a nice steak and lobster and then she'll have a part of the lobster and a couple bites of the steak and you'll ask her if she's done and so yeah, take it away. Yeah, it's just wasteful. They're throwin' away money.

I: SO YOU THINK THAT"S PRETTY COMMON?

R: Oh yeah, I see a lotta wasted food, yeah.

I: ALSO IN THE FILM IT SAID THAT THE UNITED STATES ONLY HAS ABOUT SIX PERCENT OF THE WORLD"S POPULATION, YET WE USE UP ABOUT HALF OF THE WORLD"S RESOURCES - 50% OF THE WORLD"S RESOURCES. UM, DO YOU THINK THE FILM WAS CRITICIZING AMERICANS FOR BEING EXTRAVAGANT OR FOR HAVING A HIGH STANDARD OF LIVING?

R: I think it was, to an extent it was trying to point out to Americans just how much they are wasting and using. And that ah, if they continued to consume

R: resource at the rate they are that we're gonna be eventually forced to slow down.

I: SO YOU THINK WE"RE EXTRAVAGANT?

R: Oh yeah, definitely.

I: HOW DO YOU THINK PEOPLE JUSTIFY THAT? AS FAR AS USING THAT AMOUNT...

R: The American Way. Go out and make a buck and then turn around and spend it as fast as you make it.

I: SEEMED IN THE FILM THAT IT PORTRAYED AMERICANS AS OVEREATERS. LIKE THE SCENE IN THE RESTAURANT AGAIN. BUT THEN WHEN IT SHOWED THE PEOPLE THAT WERE STARVING, IT SEEMED LIKE THEY WERE JUST IN THE THIRD WORLD COUNTRIES, YOU KNOW. LIKE AFRICA OR SOMEPLACE. UM, BUT IT ALSO SAID LATER THAT THERE WERE PEOPLE STARVING RIGHT HERE IN THIS COUNTRY. DO YOU SEE THAT AS A PROBLEM IN THIS COUNTRY? ACTUAL STARVATION.

R: I've never really saw actual people starving. I imagine that in certain parts to an extent there is, but, I don't think it's near as widespread as it could be like over in some of the underdeveloped third world countries.

I: YEAH. WHERE DO YOU THINK PEOPLE HERE FOR INSTANCE, MIGHT BE STARVING?

R: Oh, maybe ah, some people in the slums maybe or ah,

I: LIKE IN BIG CITIES?

R: Uh huh. Harlem or somein' or some older people that aren't taken care of by social security and et cetera.

I: SO YOU THINK MAYBE THEY"RE STARVING?

R: They could be.

I: DO YOU EVER READ ABOUT THAT IN THE PAPERS?

R: Every once in a while yeah, you see a few cases. Not widespread, though.

I: YEAH. SO IT DOESN"T SEEM AS BAD AS IN THOSE OTHER COUNTRIES.

R: No.

I: DO YOU THINK THAT THERE"S ANY WAY THAT ALL PEOPLE IN THE WORLD CAN BE FED? AND KEPT FROM STARVING.

R: Yeah, yeah.

I: HOW DO YOU THINK?

R: Ah, we'd have to go into those countries and try to help them to develop their own agriculture system and you know, give them the knowledge and the tools to produce grain and food off their own land and, plus usin' our resources more efficiently and maybe you know, shippin' out some of our excess grain every once in a while.

I: YEAH, YOU MEAN SHIP OUT THE GRAIN INSTEAD OF USING IT FOR THESE OTHER THINGS OR?

R: You know, like for, what'd they say? They gave a, how much? We have plenty of, there's a lotta grazin' land that they aren't usin' to the full potential as they told us in my environmental science class.

I: YEAH, SO YOU THINK THAT COULD BE USED MORE WISELY?

R: Yeah, that could, yeah they, one prof told us that they could double the yield without, off the grazin' lands without detrimental affects to it.

I: YEAH, THE YIELD IS SO MANY...

R: Yeah, well, they said they could double the stocking area which is the amount of cattle per acre. On the average. Some areas are overgrazed, but there's others that are really undergrazed.

I: SO YOU THINK WE COULD HELP BY ...

R: Using more of our natural grazing lands.

I: AND BY HELPING THEM DEVELOP THEIR OWN?

R: Right.

I: SO WHEN YOU SAY WE, YOU MEAN?

R: United States.

I: SO THE GOVERNMENT OR?

R: Yeah.

I: PRIVATE PEOPLE OR CORPORATIONS, OR?

R: Ah, I'd, probably the government I'd, private corporations would probably get involved too if they wanted, but I don't think they'd see much profit in it.

I: RIGHT. UM, DO YOU THINK WE"RE DOIN" THAT NOW?

R: Little. Peace Corps and stuff goes out and tries to do what they can. If each individual too, makes a little bit of effort to ah, you know, eat what he, when he's hungry and not to throw away the stuff you know.

I: RIGHT, SO BY NOT WASTING, WE"RE ALSO GONNA HELP.

R: Right, we could conserve.

I: YEAH. SO YOU THINK IN A WAY THAT WE SHOULD TAKE THE RESPONSIBILITY? OR AT LEAST PART OF IT TO SEE THAT THESE PEOPLE ARE FED.

R: I'd think so, yeah. Hunger's a pretty sorry situation.

I: YEAH. WELL,

** END OF INTERVIEW.

Americans are the worlds resource gluttens. The average American consumes two times as much protein as needed. We consume 1/3 of the Worlds resources and have only 1/6 of the world Population. And we waste, or throw away 1 pounds of of 4 of food. Why? Well Since Americans are the Worlds largest producers of food, many people feel we have plenty of food so why worry. I'll tell you why. what about the 11 million people a year who die in Other countries because of starvation. Don't we have a responsibility as the worlds largest producer of food to see that there people get the necessary amount of protein needed to survive? With just a little conservation of food resources we could save Millions of lives.Also we leaders in the agriculture production & technology so we could help under developed countries make more use of their land. Show them how to enrich the soil, and plant the necessary crops. If the U. S. would spend some money on the development of other countries food supplies, The I could see an end coming to world hunger. Hunger is probably the worst fate of man, to slowly die of malnutrition is a very painful process.

Conserving of our resources is a necessity for man to survive in the long run. Especially conserving by the U. S. consumers who use resources like there is no tomorrow, and there very well may not be a tomorrow for many Millions of people who are deprived of an adequate food supply. Some feel that the world is to over populated to support adequately, but I feel there are plenty of resources we just have to use them more efficiently. If each American makes an effort to eat what is necessary for a solid diet, then there will be enough food left over to feed another 250 million people. We throw away enough food to considerably curb the world hunger situation. Americans are gluttens of resources, and we could cut down considerably on resource use, if we don't the we'll have the deaths of Millions of people on our minds, because we threw away the food that could have saved them.

Respondent X48/Interviewer 11

I: WHY DON"T WE TALK ABOUT THAT FILM A LITTLE BIT? DO YOU HAVE ANY GENERAL IMPRESSIONS?

R: Takin' a foods and nutritions class so, um, he went over a lot of this, it's just, you know, we don't need that much protein and it does get wasted. You know, your body only takes a certain amount and then the rest is just turned into fat.

I: YEAH, I THINK THEY SAID AH, THAT THAT IN THIS COUNTRY WE EAT OVER HALF OF THE PROTEIN, I MEAN, WE EAT TWICE AS MUCH PROTEIN AS WE REALLY NEED.

R: Twice as much as we need, yeah.

I: DO YOU THINK PEOPLE, DO PEOPLE IN GENERAL THINK THAT"S NECESSARY?

R: Think that's necessary?

I: YEAH, DO WE THINK WE NEED THAT, IS THAT WHY WE EAT THAT MUCH?

R: Yeah, it's you know, kinda vogue in America, it's, you know, you have to have your meat, your vegetables, your potatoes and fruit and stuff and every meal. So,

I: SO WE THINK WE NEED THAT MUCH?

R: Yeah, we think we need meat every meal, and we don't.

I: IT ALSO SAID IN THE FILM THAT AH, THE UNITED STATES HAS ONLY SOMETHING LIKE 6% OF THE WORLD"S POPULATION YET WE USE LIKE AH, HALF

R: Half the food, of the resources

I: HALF OF THE RESOURCES, YEAH. DO YOU THINK THE FILM WAS CRITICIZING THIS COUNTRY FOR BEING TOO EXTRAVAGANT OR

R: Not criticizing it, just pointing it out.

I: AND THAT MAYBE WE HAVE A HIGH STANDARD OF LIVING? REAL HIGH STANDARD OF LIVING HERE? COMPARED TO OTHER PLACES.

R: Yeah. It might not necessarily be high standard I mean, cause like Sweden could be just as high standard except we're more wasteful.

I: SO YOU THINK WE"RE EXTRAVAGANT? AND WASTEFUL?

R: Yeah.

I: WHAT OTHER WAYS DO YOU THINK PEOPLE IN THIS COUNTRY ARE ARE EXTRAVAGANT? BESIDES IN EATING.

R: Extravagant?

I: DO YOU KNOW WHAT THAT MEANS?

R: Not really!

I: OH, JUST WE HAVE A LOT.

R: Just kind of think of ourselves?

I: WELL, YEAH, WASTEFUL IS PART OF BEING EXTRAVAGANT TOO. JUST THAT AH,

R: Do what we want to?

I: WELL JUST THAT WE"RE USED TO HAVING A LOT OF EVERYTHING. THAT WE REALLY LIKE TO HAVE LOTS OF NICE THINGS AND EVERYTHING.

R: Yeah, cause like, we're kind of like we're used to getting our way and stuff. Like we don't like to stand in lines, we don't like to wait, we don't like to you know, like to boss other people around and get our things done.

I: YEAH. IT ALSO SAID IN THE FILM THAT OUT OF EVERY FOUR POUNDS OF FOOD THAT ONE POUND GOES INTO THE GARBAGE. HOW WOULD YOU EXPLAIN THAT? WHY DO YOU THINK WE DO THAT? DO YOU REMEMBER WHEN THEY SAID THAT?

R: Yeah. Why we do that?

I: YEAH, REMEMBER LIKE THEY SHOWED A SCENE IN A RESTAURANT WHERE PEOPLE WERE EATING AND WHEN THEY WERE FINISHED THEY WERE TAKING THE PLATES AWAY AND THERE WAS STILL FOOD.

R: Yeah, we just, buy more than we can eat. Just take more than we can eat.

I: DO YOU SEE PEOPLE DO THAT?

R: Uh huh, in the dorm especially.

I: YEAH, DO YOU THINK PEOPLE IN GENERAL DO THAT? OR JUST WHEN THEY EAT OUT?

R: It really depends on how they were grown up. Lotta people, like I was growin'up I'd feel guilty if I didn't eat everything on my plate.

I: YEAH. DO YOU THINK OTHER PEOPLE GROW UP WITH THOSE SAME IDEAS? I WONDER WHY WHEN THEY GET HERE ALL OF A SUDDEN THEY"RE WASTING LIKE YOU SAID, IN THE DORMS THEY WASTE FOOD.

R: Lotta people still don't in the dorms, you know. They still have that in em, lotta my friends are like that too.

I: YEAH, SO IT"S LIKE A QUARTER OF THE FOOD IS WASTED. DO YOU THINK THAT"S PRETTY AVERAGE FOR THE WHOLE COUNTRY OR JUST, LIKE THEY SHOWED IN A RESTAURANT AND YOU"RE TALKIN ABOUT IN THE DORM - DO YOU THINK THAT AT HOME PEOPLE DO THAT TOO?

R: Not at all.

I: MAYBE NOT WHERE YOU"RE FROM. OR MAYBE NOT AT YOUR HOME, BUT DO YOU THINK PEOPLE IN GENERAL?

R: Yeah, yeah.

I: WHY DO YOU THINK THEY DO IT THERE?

R: Cause a lotta times they'll, you know, they'll think about savin' it, they'll say,"okay, we have left overs tonight, let's reheat em up tomorrow." But then tomorrow night something comes up and then the leftovers stay in the fridge so it's later they end up throwing the leftovers out.

I: YEAH, SO THAT"S PRETTY COMMON PROBLEM HUH? IT SEEMS THAT IN THE FILM IT PORTRAYED AMERICANS AS BEING OVEREATERS. LIKE AGAIN, IN THAT RESTAURANT SCENE IT SHOWED THESE PEOPLE, THEY WERE JUST EATING AND EATING. AND AH, BUT YET WHEN IT SHOWED THE PEOPLE WERE STARVING IT SEEMED THAT THEY WERE IN THIRD WORLD COUNTRIES - LIKE AFRICA OR SOMEPLACE LIKE THAT. AND THEN IT SAID THAT THERE WERE PEOPLE THAT WERE STARVING RIGHT HERE IN THIS COUNTRY. UM, DO YOU THINK THAT STARVATION IS A BIG PROBLEM HERE?

R: In America?

I: YEAH.

R: I know it's a problem in some places but,

I: LIKE WHERE?

R: Like in say, ghettos, or something. But, you know, they're just kinda pushed aside and nobody really wants to listen to their problems and they don't have much voice so unless someone else gets out there and you know, points out to the world that they're starving you know, we're never gonna know.

I: YEAH, YOU MEAN THE PEOPLE IN THIS COUNTRY?

R: Yeah.

I: SO YOU SEE THAT AS A BIG PROBLEM.

R: Starvation here?

I: HERE, YEAH.

R: Not as a big problem.

I: YEAH, BUT STILL A PROBLEM.

R: Yeah.

I: DO YOU HEAR ABOUT THAT A LOT? LIKE IN THE NEWSPAPERS OR ON TV OR ANYTHING?

R: No.

I: DO YOU THINK PEOPLE ARE AWARE OF THAT REALLY? DO YOU THINK THAT"S AS BIG A PROBLEM HERE AS IT IS IN OTHER COUNTRIES?

R: No. I think it's here just more of a maltrition, you know.

I: MALNUTRITION?

R: Yeah. It's not really a starving.

I: SO IT"S A DIFFERENT KIND OF PROBLEM THAN IT IS IN OTHER OCUNTRIES?

R: Yeah.

I: SO THEIR PROBLEM IS WORSE? UM, DO YOU THINK IT"S POSSIBLE FOR ALL THE PEOPLE IN THE WORLD TO BE FED?

R: Definitely.

I: HOW?

R: Well, like, you know, I always hear about them, the government paying farmers not to grow food and to throw it away or do something, you know. That's just crazy.

I: YEAH, THAT"S WASTEFUL. DO YOU THINK THAT THIS COUNTRY AS A COUNTRY SHOULD TAKE SOME RESPONSIBILITY IN MAKING SURE THAT PEOPLE ARE FED?

R: We've already tried in some programs. But it's basically the government, you know. No matter how much the people want it. Government just can't go tossing money around like that.

I: RIGHT, WHAT DO YOU MEAN, WHAT PROGRAMS HAVE WE ...

R: Um, the Peace Corps in a way, kind of help, don't they? And um, there's those a lot of religious groups you know, have those um, feed a month, a child for a month. And...

I: RIGHT. DO YOU THINK THAT"S HELPING AT ALL?

R: Yeah, it helps.

I: IS IT HELPING ENOUGH, THOUGH? DO YOU THINK IT"S OUR RESPONSIBILITY? AS A COUNTRY?

R: "it's not just America's responsibility, it's kind of everybody's responsibility, but you know, we're part of everybody so yeah, it's our responsibility too.

I: EVERYBODY THAT HAS FOOD, IT"S THEIR RESPONSIBILITY TO MAKE SURE THAT PEOPLE WHO DON"T HAVE FOOD GET FED?

R: Yeah, but the way we operate right now, I, you know, it's, you know, we can't do that.

I: YEAH, WHAT DO YOU MEAN, YOU MEAN, GOVERNMENT OR?

R: Yeah.

I: HOW DO THEY STOP FOOD FROM GETTING TO THOSE PEOPLE?

R: Well, if they want it, you know, if they give them food they want something in return. They just, don't want to just give them food.

I: AND THEY"RE NOT GOING TO GET THAT FROM THOSE PEOPLE?

R: Yeah, they don't have anything to give really.

I: YEAH, WHAT ABOUT THEIR GOVERNMENTS IN THOSE COUNTRIES? DO YOU THINK THEY"RE DOING ANYTHING? OR WHAT DO YOU THINK THEY CAN DO?

R: I don't know, probably depends on the country, you know. Some starving countries are just gonna ignore the starvation and try and be industrialists, first. And then worry about the people. And some are tryin' to worry about the people first.

I: AND WHAT DO THEY DO?

R: What do they do?

I: YEAH, THE GOVERNMENT"S OVER THERE.

R: They would probably just get out there and start like anti-cultural programs and things.

I: DO YOU THINK THEY CAN AFFORD THAT?

R: They would get help from some countries, yeah.

I: SO EITHER WAY, PEOPLE ARE GONNA HAVE TO (garble)

R: They can (garble) but, you know, it's, I don't know if we're gonna help them, it depends ...

I: DO YOU THINK WE SHOULD THOUGH?

R: Yeah.

I: IT DEPENDS ON WHAT?

R: The relationship between the two countries, you know. If America sees them as "enemies" or "allies".

I: WERE THERE ANY OTHER IMPRESSIONS YOU HAD ABOUT THE FILM? ANYTHING ELSE THAT STUCK OUT IN YOUR MIND?

R: Yeah, beef is a waste. (laughter)

I: HOW SO?

R: Chicken much better, no, it's alright but it's like, I don't know, four pounds of grain to make one pound of meat and then 15 pounds of grain to make one pound of beef. That blew me away.

I:"MEMBER WHAT THEY SAID, THAT 15 POUNDS OF GRAIN COULD GO TO FEED ONE OF THOSE LITTLE KIDS FOR A MONTH.

R: Yeah.

I: WHAT DID YOU THINK ABOUT THAT?

R: I don't know, I think as a diet it would get pretty boring but, he's living.

I: IS THERE ANYTHING ELSE IN THERE? HOW DID YOU FEEL WHEN THEY SHOWED THE LITTLE KIDS THAT HAD DIED?

R: I was just wondering kind of, how those guys who were burying them, if they were really starving, too, you know. And then they're makin' em do hard labor like that.

I: WHAT DO YOU THINK THEIR REASON WAS FOR THEM SHOWING THAT IN THE FILM?

R: Just to point out that children actually do die, that they're not always, you know, you always see them just there with the sad eyes and starving.

I: SO THAT HAD AN IMPACT ON YOU? HOW DO YOU THINK OTHER PEOPLE IN THE CLASS FELT ABOUT THAT OR WAS THERE ANY WAY TO KNOW? WAS THERE ANY REACTION WHEN THEY WERE SHOWING SOME OF THOSE SCENES?

R: I never got to pay any attention.

I: IS THERE ANYTHING ELSE IN THE FILM THAT LEFT AN IMPRESSION OR ...

R: Oh, when the guy dumped his cigarette butt on the meat. That really got to me!

I: DO YOU EVER SEE PEOPLE DO THAT?

R: Yeah, that's just gross.

I: THAT BOTHERED YOU?

R: Yes.

I: WHY?

R: ...just puttin' cigarette butts on food, it's just...

I: GOOD FOOD.

R: Yeah.

I: IS THERE ANYTHING ELSE THAT, ANY OTHER IMPRESSIONS OR ANYTHING, COMMENTS ON THE FILM? WHAT DO YOU THINK THE MESSAGE OF IT WAS OR WAS THERE A MESSAGE?

R: Kinda, just, what we were saying. We're wasteful and we really don't need all the food that we take.

I: YEAH. DID THEY OFFER ANY SOLUTIONS OR DO YOU THINK THEY LEFT THAT UP TO YOU?

R: No, they left it up to us.

I: YEAH.

** END OF INTERVIEW.

The world as of now produces enough food to feed the entire world population yet the distribution of this food is unequal. Americans are the biggest concern of this unequal distribution, their attitudes must be changed in order to equal out the distribution. The second major factor, possible tied with America as a first factor, is the governments of the world. They need to cooperate more in order to feed the starving peoples.

To make one pound of poultry it takes 3 pounds of grain. It requires 15 pounds of grain to produce one pound of lean tender marble fat beef. These same 15 pounds of grain could support a starving child for one month. Much of the grain produced is not ever used; but rather the farmers are given money to not plant or to burn their production. This is simly a waste of good food. America wastes one pound of food for every four pounds taken and America alone (6% of the worlds population) use up half of the worlds resources.

America obviously has lifestyle or attitude problems concering food and its wastage. Some say we have a high standard of living and that must be the cause of our acceptance to wastage. Sweden has a high standard of living, possibly higher than Americas, do they waste food in the manner that Americans do? No. A lot of social and busness activities in America center around food. This could be the cause of our wastefullness. Commercials stress quanity "2 1/2 oz more", "bigger and better" instead of quality. The food distribution in America is not even equal but the newspapers and televisions never inform the public of this. Its hard for americans to understand what starvation really is. In the film Food for a small planet a scence shows lots of starving children looking out with big sad hopeless eyes. Everybody has seen this before and respond with an appropriate "ohhh, how awful. But the next scene shows death. Men buring the dead children.

Respondent X-5/Interviewer 5

I: WELL, LET'S TALK ABOUT THE FILM A LITTLE BIT. UM, ONE THING IN THE FILM - HOW'D YOU LIKE IT?

R: It was very interesting, it was.

I: YOU LEARN SOMETHING FROM IT?

R: Yeah.

I: UM, ONE THING THAT THEY SAID WAS THAT AMERICANS WILL EAT 50% MORE PROTEIN THAN WHAT WE NEED. OR EAT TWICE AS MUCH PROTEIN THAN WHAT WE NEED. DO YOU THINK THAT WE EAT THAT BECAUSE WE THINK WE NEED IT, OR WHY DO YOU THINK WE EAT SO MUCH PROTEIN? YOU KNOW, EATING SO MUCH MEAT. DID YOU PICK THAT UP WHEN THEY WE TALKING ABOUT THE UH, WHEN THEY WERE SHOWING THEM IN THE RESTAURANT EATING MEAT...

R: Eating all that meat...

I: UH HUH, AND THAT'S ONE WAY OF GETTING PROTEIN AND ALL THAT AND THEY SAY OTHER WAYS WE EAT WE GET - WE'RE EATING TWICE AS MUCH PROTEIN AS WE ACTUALLY NEED.

R: You know, basically what it is you know, like people say eat stuff and they want to eat steak. Most people you know, likes to eat meat you know, like everybody else eats steaks and I want to eat steak so they feel that steak more expensive - people want to eat the expensive stuff, basically.

I: SO YOU THINK THAT AMERICANS EAT MORE PROTEIN CAUSE THEY LIKE TO EAT THE MORE EXPENSIVE STUFF?

R: Yeah, basically.

I: LIKE, DO YOU?

R: Oh, I like steak a lot - it's more meat, you know. I like to eat expensive food, but I eat you know, that's what my mother buy...meat.

I: WELL, THAT'S TRUE. UM, DO YOU THINK THAT WE THINK ABOUT IT - ABOUT EATING TOO MUCH PROTEIN OR...?

R: We think about it, but at the time you eatin' you know, that's all you think about gettin' full, really. Basically.

I: UM, ANOTHER THING, THAT FOR ONE POUND OF FOOD IN FOUR THAT WE PRODUCE HERE, GOES IN THE GARBAGE CAN. HOW DO YOU EXPLAIN THIS WASTE? I MEAN, THAT'S A LOT OF FOOD.

R: I know, people try to eat a little too much, that's what it is; or there's so much and don't eat it all, then ________ he just throw it away, basically.

R: But it's people who bad outa shape, like they showed little kids, you know, with all we waste, could be goin' to them or somethin' like that.

I: SO WHY DO WE THROW SO MUCH AWAY?

R: I don't know.

I: I MEAN, HOW IS IT THAT, IS IT LIKE AH, WE'RE FIXIN' ALL THIS FOOD AND THEN "OH WE DON'T NEED THIS" SO WE JUST THROW IT AWAY, OR, DO YOU THINK WE'RE TOTALLY AWARE OF IT OR WHAT ARE SOME OF THE WAYS THAT WE WASTE THIS POUND OF FOOD? DO YOU UNDERSTAND WHAT I MEAN?

R. No, I sure don't.

I: UM, WELL ONE THING THAT THEY SHOWED ALSO IN THE FILM, WHEN THEY WERE EATING IN THE RESTAURANT...AND THE WAITER WOULD CLEAR AWAY THE FOOD, AND THERE WOULD BE ALOTTA FOOD LEFT ON THE PLATE. AND SO THAT"S ONE WAY, BUT THAT CAN"T BE ALL BECAUSE MAYBE NOT EVERYBODY"S EATING OUT IN RESTAURANTS - WHAT ARE SOME OTHER WAYS THAT WE'RE, CAN YOU THINK OF, THAT WE"RE WASTING FOOD? DO YOU THING IT'S TRUE?

R: Yeah, we're wasting a lot of food, yeah, a lot of food. Say, if you order something, you drop your plate, that's fool waste. Food that you cook and you don't really want to eat, you wastin' it, you know, maybe cookin' too much. And you know, you don't want to refrigerate it, so you just throw it away.

I: DO YOU THINK A LOT OF PEOPLE DO THAT IN THEIR HOMES? HOW BOUT HERE AT SCHOOL?

R: Lotta, like, I ain't tryin' to talk about the cafeteria food, but people, you know, a lotta people, you know, get so much stuff, you know, "ah, I like this" and don't like it, you know, and they just waste or just pick in their food you know, and just leave it there. A lotta people doin' it.

I: YEAH, SO THAT"S ANOTHER WAY. UM, HOW BOUT IN YOUR HOME, DO YOU DO THAT DO YOU THINK SOMETIMES, JUST BY...?

R: Sometime. I waste food sometime. I think I'm real hungry but I'm not really as hungry as I think and I just won't eat the rest of it. Just throw it away.

R: DO YOU THINK WE SHOULD BECOME MORE CONSCIOUS OF THIS?

I: Yeah. Yeah, cause there's alotta people who's starvin' that you know, the food you waste, they can use it, you know. Some people really need that food.

I: SO, HOW, WHAT DO YOU THINK WOULD BE ONE WAY OF, OR JUST BY NOT THROWING IT AWAY? I MEAN, HOW, HOW UM, WOULD OUR NOT WASTING THE FOOD HELP THEM? YOU KNOW, WHAT ARE SOME OF THE THINGS THAT WE COULD DO?

R: Basically, you know, you know, just cook enough just you know, for the family be just the right amount you know, to get full and just, you know, just the right amount, you know, and the food you don't eat just put it up, you know, refrigerate it and just warm it back up you know, no need of wasting all that food.

I: AND SO, ALSO STOP FROM BUYING SO MUCH. DO YOU THINK THAT WOULD HELP IF WE DIDN"T BUY SO MUCH?

R: Yeah, or you know, that's really what it is. Lotta people just keep overstockin' you know, cookin' and you know, just not eatin' it all you know, wanna try somethin' else you know, some people just waste food so much, though.

I: HOW BOUT THE PART AH, WE PRODUCE 6% OF THE WORLD"S PRODUCE, AND YET WE CONSUME 50%? OF THE WORLD"S PRODUCTION. YOU KNOW, SO WE"RE ONLY PRODUCING THE SMALL AMOUNT, YOU KNOW, WE"RE DOING OH, NOW WAIT, I GOT THIS WRONG. WE HAVE 6% OF THE WORLD"S POPULATION AND YET WE"RE CONSUMING 50% OF THE WORLD"S RESOURCES. IS THIS, ARE WE BEING TOO EXTRAVAGANT? OR IS THAT SAYING SOMETHING GOOD FOR OUR STANDARD OF LIVING?

R: Well, you said that, like we 6% of the population but ...

I: BUT, WE"RE USING 50% OF THE WORLD"S RESOURCES.

R: Food, and all that you talkin' bout? Resources? You said, we usin' all the resources?

I: YEAH, 50% OF THE WORLD"S RESOURCES. SEE WE GET HALF OF IT EVEN THOUGH WE ONLY HAVE 6% OF THE PEOPLE HERE. IS THAT SOMETHING GOOD BECAUSE WE HAVE SUCH A GOOD STANDARD OF LIVING OR DO YOU THINK THAT"S BECAUSE WE"RE A LITTLE BIT TOO EXTRAVAGANT?

R: Mmmm, that's a hard question.

I: YEAH, NONE OF THESE QUESTIONS ARE PARTICULARLY EASY. I THOUGHT THE FILM WAS PRETTY...HEAVY.

R: Could you say the question again?

I: UH HUH. WE HAVE 6% OF THE WORLD'S POPULATION IN THIS COUNTRY. THIS 6% IS USING UP 50% OF THE WORLD"S RESOURCES. THAT'S MOSTLY IN FOOD AND THAT"S ALSO IN ANYTHING THAT WE BUY, YOU KNOW, IN ANY OF THE LUMBER AND EVERYTHING THAT THE WORLD HAS, WE"RE USING-UP HALF.

R: That's really people trying to be you know,.quality, you know, trying to get up the best of everything, you know. That's really what it is, trying to get the best of everything - you want high living you know, that's what it is.

I: SO THAT"S PRETTY MUCH JUST OUR HIGH STANDARD OF LIVING. DO YOU THINK THAT"S GOOD OR...OR BAD ...OR OKAY?

R: It's okay, in different ways, you know. It's okay if you know, you gettin' this, you know, you takin' care of stuff, but it's not alright if you gonna get it and you know, abuse it, you know. That's what it is.

I: HOW BOUT THOSE WHO ABUSE IT? LIKE EARLIER WE TALKED ABOUT PEOPLE WASTING SO MUCH SO...

R: It don't make no sense to get somethin' if you gonna abuse it. It just don't make no sense. People abusin', that one type people you just don't care, you know, "hey this mine, so I can do what I want, you know, that's how they feel, that's the kinda attitude they probably have.

I: SO WHAT DO THINK - SHOULD WE TAKE SOME MORE RESPONSIBILITY FOR SOME OF OUR EXTRAVAGANCE AND LOOK OUT FOR THE OTHER GUY, DO YOU THINK?

R: You know, what it is, oh, you finish, you finish.

I: OH, I WAS JUST GONNA SAY OR IS IT OKAY FOR US TO KEEP ON GOIN" LIKE WE ARE?

R: No, there have to be some change you know. Somebody has to give in you know. Has to be some changes about it, cause you know like you sayin', all these people dyin' o' starvation, you know, that should tell you somethin'. Should tell you somethin' so that we have to change something you know, benefit everybody.

I: SO WE SHOULD.

R: Yeah, we should.

I: SO WHAT DO YOU THINK THAT INCLUDES DOING?

R: Cuttin' down on a lot o' things, you know. Cuttin' down you know, ah, like you say, ah, this family has so much, you know, for their family, you know, not less, you know, but enough you know, that everybody be alri, you know, you know, set and everything. You know, don't give more, so much more than you give this other family, you know, just enough for everybody, you know, live real nice and stuff, you know. Really.

I: HOW BOUT THE ONE GUY THAT SAYS HE WORKS HARDER THOUGH AND DESERVES MORE. WHAT DO YOU THINK ABOUT THAT?

R: Yeah.

I: THAT"S ANOTHER PROBLEM. (laughter) NOT A LOTTA EASY ANSWERS ARE THERE?

R: Nah.

I: UM, DO YOU THINK IT"S STILL FAIR IF SOMEBODY WORKS HARDER TO GET MORE AND BE ABLE, YOU KNOW, IF A MAN FIGURES WELL HE EARNS $80,000 THIS YEAR AND IF HE WANTS TO SPEND IT ALL ON FOOD OR SOMETHING THAT HE DOESN"T NECESSARILY NEED AND THROW AWAY HALF OF IT, IS THAT OKAY OR SHOULD HE TAKE A LITTLE MORE RESPONSIBLITY ...

R: He should take a little more responsibility for everybody. If he have a any conscience, most likely he would.

I: LIKE IF HE SAW A FILM LIKE THIS. (laughter) DO YOU THINK YOU'LL CHANGE SOME OF YOUR HABITS?

R: Really.

I: WHAT WOULD YOU DO IF YOU HAD TO SEE THAT FILM EVERY NIGHT BEFORE DINNER?

R: If I had to see that, probably you know, would get just enough for me to full on - waste nothin'.

I: A LOT OF, MOST OF THE FILM WHEN THEY"RE TALKING ABOUT STARVATION, THEY TELLIN" YOU ABOUT THIRD WORLD COUNTRIES, YOU KNOW, THE POOR COUNTRIES, LIKE INDIA AND THE FAR EAST. UM, AND THEN TOWARDS THE END THEY SAY THAT THERE"S ALSO STARVATION IN AMERICA. UM, DO YOU THINK THAT"S TRUE?

R: Oh, there's people starvin' everywhere.

I: THEY"RE HERE TOO?

R: It may not be that they starvin' by food, but some, starvin' you can't really just say by food, you know, you could be starvin'you know, money problems, you know, I feel that's starvin', you know, like that.

I: OH YEAH, LIKE WHAT ELSE DO YOU MEAN?

R: You know, like you don't necessarily have to be starvin' in food, you can be starvin' you know, economically, you know, money problems or you know, there different ways. You don't necessarily have to say, oh, he's starvin' foodwise - some people who, you know, get full meal everyday, but you know they still you know, bad shape, you know. Just enough to survive by, you know.

I: RIGHT, LIKE THEY"RE SPENDING ALL THEIR MONEY ON FOOD AND THEY DON"T HAVE ANY MONEY LEFT FOR ANYTHING ELSE.

R: Yeah, maybe some, somebody might have clothes - warm jackets - you know...

I: WHY DO YOU THINK THAT"S A PROBLEM HERE?

R: Huh?

I: WHY DO YOU THINK WE HAVE THAT PROBLEM HERE. I MEAN THIS IS A CAPITALISTIC SOCIETY - ANYBODY CAN HAVE WHAT THEY WANT? SO WHY DO WE HAVE PEOPLE STARVING? WE"RE SUCH A RICH COUNTRY.

R: I think the reason why is that is because uh, life, just like the, it's like it just like people have so much that they don't need you know, and another that's my opinion I feel that people you know, have so much - little too much and this family you know, don't have nothin'. Don't nobody want to get together and try to help this family, you know, that's what I feel it is, basically.

I: SO IT"S THOSE WHO HAVE ARE NOT GIVING ARE NOT GIVING OVER TO THOSE WHO HAVE NOT? KIND OF?

R: Not, tryin' to be like, you know, like that but you know, this, you know, R: saying the majority of people have you know, say have you know, everything they want, you know, and these people don't have nothin' you know. I feel that, you know, the familys you know, can get together and try to help this, you know they do it, but, you know, MORE - help MORE - like that.

I: HOW COME, WHY DO YOU THINK IT"S TAKING SO LONG FOR US TO DO THIS?

R: I don't even know.

I: I MEAN, WHAT SHOULD WE DO TO TAKE CARE OF IT, I MEAN, WHERE CAN YOU EVEN START? ON SUCH A BIG, SUCH A MASSIVE PROBLEM... OR DO YOU THINK MAYBE WE HAVE BEEN WORKING ON IT A LITTLE BIT?

R: I think we, people, you know, they ship the food over here and stuff they, it's startin', functioning, you know, but it has to, you know, everybody has to give in more, more you know, it's startin' you know, it been started tryin' - they been sendin' food over, medical stuff - equipment and stuff like that.

I: OH, OUT OF THIS COUNTRY TO THE OTHER COUNTRIES?

R: Uh, huh.

I: BUT THEY"RE STILL HUNGRY OVER THERE. DO YOU THINK WE SHOULD KEEP ON SENDING MORE?

R: Yeah, more.

I: WHAT ABOUT OUR PEOPLE HERE STARVING AT HOME? HOW WE GONNA.HELP THEM TO?

R: I'd say, if there's a will there's a way somehow.

I: MAYBE WE HAVE TO THINK OF IT SINCE WE"RE THE YOUNG ONES.

R: I know.

I: DO YOU THINK IT"S POSSIBLE THAT WE CAN TAKE CARE OF ALL THESE PEOPLE?

R: I really can't say, I don't even know. I I think it's possible, it's possible, like you said, you know, America's a rich country - isn't that what you said? It's possible, it, you know but you have have to just have to you know, somebody have to just come in and just you know, demand it, you know. No seein' or you

R: know, people not really takin' this as serious as the problem is. That's what it basically is - people not takin' this as serious as it is. You could probably see somebody watchin' you know, and just thinkin' its a little a commercial or somein' you know, but this is serious business.

I: SO HOW DO WE MAKE EVERYBODY TAKE IT SERIOUSLY?

R: Off, just, you know by just keep you know showin' it, showin' it you know, TV or newspaper or you know, you know, you know special bulletin, every you know just the right people just open their eyes and see how the world really is, you know.

I: WHAT ABOUT, THAT"S A PRETTY GOOD IDEA, YOU KNOW, SHOWIN" ON TV AND STUFF A LOT AND ADVERTISING AND MAKING EVERYBODY AWARE OF THE PROBLEM. BUT HOW BOUT, DO YOU THINK IT EVER GETS TO POINT LIKE CAMPAIGN COMMERCIALS - WE SEE EM OVER AND OVER AND AFTER A WHILE YOU"RE NOT EVEN AWARE OF WHAT"S BEING SAID. SO WHAT ELSE COULD WE DO OTHER THAN , I MEAN ARE THERE ANY OTHER ALTERNATIVES OR THINGS THAT WE COULD DO? TO MAKE THE WORLD AWARE OF IT. OR TRY AND FORK OVER SOME OF THEIR BUCKS?

R: You can, you can have, you know, you know like a, you know like a boycott or anything you know, walk you know, anything, you know, signs - walk around in those parades, anything, you know to make em try to open the eyes to...

I: SO WHAT DO YOU THINK THEY"LL START DOING? DO YOU THINK THEY"LL STOP WASTING FOOD AND YOU KNOW, IS THAT ALL THAT WE CAN DO?

R: You can't say that you just gonna stop wasting food just like that... they gonna steal to get it.

I: HOW DO YOU THINK THE FILM AFFECTED EVERYBODY WHO SAW IT TODAY?

R: Oh, everybody was goin', oh Lawd, you know; everybody was just in a daze when they was seein' little kids and ah, like the...

I: IT"S KINDA A GRAPHIC FILM.

R: But the film's basically you know, all this waste food, and se, and then you -

R: tryin' to say these kids starvin' and all this waste food we doin' up in America you know. That's what the film's trying' to say, all this waste food now look at, now look at these kids don't have all that to waste, you know, every, all the food they get, everything they get, they just eat, you know, they not leavin' nothin'.

I: NO, THEY"RE GETTING ENOUGH. THEY TALKED A LOT ABOUT HOW MUCH GRAIN IT TAKES TO, OH, SOMEHING LIKE EVERY 15 OUT OF 15 POUNDS OF GRAIN, WE USE ONE TO FEED MEAT, YOU KNOW, TO FEED AH, STOCK - LIKE CHICKENS AND COWS. WHEREAS MAYBE THAT GRAIN, THE FILM SUGGESTED, MAYBE THAT GRAIN SHOULD BE SENT OVER TO THE THIRD WORLD COUNTRIES, DO YOU THINK THAT"S GOOD? OR DO YOU THINK THAT"S TELLING US TO BECOME VEGETARIANS OR WHAT?

R: You know, not, well you saying, you know, all that food you feedin' to the anim, you know, the cows and stuff like that, you know, necessarily, you know, they tryin' to beef-up the cow you know that, so you know meat be better so: but you can take half that and send it to them kids you know, people in the third world, whatever, like you say... just send some of that to them, than you know, feedin' all the stock, you know. Well, that's a good suggestion.

I: BUT WE EAT ALL THAT STOCK. I MEAN WHAT ARE WE GONNA DO WITH, YOU KNOW, HOW WE GONNA FEED THEM, CAUSE WE NEED ALL THAT.

R: ah, see that this is a - it's always a question to back that up see, yeah.

I: YEAH, THAT"S ONE OF THE THINGS ABOUT COLLEGE, I THINK, THEY THROW ALL THIS STUFF AT YOU AND SAY, "HOW YOU GONNA SOLVE THIS?" AND IT"S PRETTY HARD. (laughter) I DON"T KNOW, BUT TRYIN" TO THINK OF DIFFERENT WAYS TO START. DO YOU THINK THE INDIVIDUAL MAKES A DIFFERENCE? LIKE DO YOU THINK IF EVERYBODY WHO SAW THAT FILM WERE TO DO SOMETHING IT WOULD START HELPING?

R: Maybe like sendin' the others different places, you mean, something like that or what?

I: I MEAN JUST SHOWING IT TO AH, I GUESS ABOUT 50 OF YOU SAW IT THIS MORNING. AND 50 MORE ARE GOING TO SEE IT.

R: Yeah, more and more people.

I: DO YOU THINK THAT"S A GOOD START?

R: Make people think about it more, you know, they tell they're friends, they're friends tell, you know, it starts some.

I: WHAT DO YOU THINK THEY"LL DO?

R: You mean...

I: THE INDIVIDUALS WHO SAW THE FILM.

R: I know a lot, the, a lot them girls next to me and stuff, she said she wasn't gonna waste, soon as she seen that she said, "I'm gonna stop wastin' food." - first time she see it. So the film, it's, the film affected a lot of people in the class, too. It did - opened up a lotta eyes.

I: DO YOU THINK ANYBODY WAS ANGERED BY IT?

R: Ah, I can't really say if, cause didn't nobody just come out and say...

I: CAUSE SOME PEOPLE WOULD BE ANGERED BY THAT SORT OF A FILM SAYING THAT UM, IT"S JUST PURE PROPAGANDA AND WE AMERICANS, YOU KNOW, IF THOSE COUNTRIES CAN"T TAKE CARE OF THEMSELVES THEN THAT"S THEIR PROBLEM, WE HAVE OUR OWN PROBLEMS OVER HERE. WHAT DO YOU THINK ABOUT THAT KIND OF ATTITUDE?

R: That's not the way to have a attitude. That's not the right kinda attitude. Because you know, they human just like everybody else so you you should treat them like you wanna be treated - you wouldn't want nobody to treat you bad so you don't treat them bad.

I: AND SO WHEN THEY"RE DOWN YOU SHOULD MAYBE LEND A HELPING HAND?

R: Cause you never know in the long run, they might have to help us - the long run. Even though they, you know, in bad shape right now, never know.

I: DO YOU THINK YOU"LL DO ANYTHING ELSE OTHER THAN STOP WASTING FOOD? YOU GONNA START SENDING DOLLARS TO CARE OR...

R: Oh, I always did, you know, maybe at the store put stuff in. I always do that.

I: THAT"S REALLY INTERESTING. ARE YOU GLAD THAT YOU SAW IT?

R: Yeah, yeah, I am.

I: EVEN THOUGH IT WAS KINDA GORY.

R: It was, you know, I'm glad I, cause you know, I've never really think - before I saw that film I wasn't really thinkin' about that. Until I seen that film, I wasn't/even really thinkin' about that.

I: WHAT DO YOU THINK WAS THE MOST GRAPHIC OR DESCRIPTIVE - WHAT SCENE STANDS OUT MOST IN MIND? AS REALLY GETTING ACROSS THE MESSAGE TO YOU? DO YOU KNOW WHAT I"M ASKING?LIKE THEY HAD ALL THESE DIFFERENT SCENES SHOWING UM, LIKE PEOPLE EATING IN THE RESTAURANT AND THEN FEEDING THE COWS AND THEY SHOWED THE BEEF BEING BUTCHERED AND ALL THAT WASTE GOING DOWN AND THEN THEY WOULD SHOW THE CHILDREN - WHAT SCENES DO YOU THINK REALLY STICK OUT IN YOUR MIND? THAT REALLY GOT THE MESSAGE OF THE FILM ACROSS? YOU KNOW, CAUSE CERTAIN SCENES...

R: When I seen the people eatin' meat and they flash little kids laying - just showin' - you could just see their ribs just walkin' around little bowl o' food - that's what really did it.

I: WHEN THEY FLASHED BETWEEN THE PEOPLE IN THE ELEGANT RESTAURANT...

R: And they showed the little kids like 3 and 2 years old - just layin' there. And they show somebody eatin' good meat and they show them eatin' - I don't know what they was eatin',,...

I: KIND OF AN OATMEAL. WHICH IS, OATMEAL IS PRETTY GOOD BUT NOT EVERYDAY FOR EVERY MEAL - GET KINDA OLD. HOW BOUT IS WE SEND EM A COW EVERY WEEK? (laughter) YEAH, IT"S KIND OF A BAD PROBLEM.

R: It is.

I: I HADN'T REALLY THOUGHT ABOUT IT THAT MUCH EITHER UNTIL I SAW THE FILM.

R: It never did come, you know, I knew about starvin', but I really wasn't thinkin' about it at the time, and, but I didn't know this was what the film was gonna be about. The old mind's open again.

I: IF YOU HAD TO WRITE ON IT, DO YOU THINK YOU UM, HAVE AN IDEA HOW YOU"RE GONNA WRITE YOUR PAPER?

R: Yeah...yeah, really.

I: WHAT DO YOU THINK YOU"LL SAY, WHAT DO YOU THINK YOU"LL BASE YOUR ARGUMENTS ON?

R: Base it probably, like, you know, the waste, about waste of food and stuff like you know, the food that they wastin' should go over here, you know, shipped to

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Session 1

The United States waste to much food because they're trying to benfit their self. The main reason is that they want quality food and when they get quality they waste it. And the American people think they need to consume but that not true. Because their are more people in other states that are in bader (sic) size(sic)then use(sic) so I can we say we are in bad size. Because of the waste of food. The 3 world is staving from it. all that food we aren't useing we could be sending over to africa are somewhere to help those country that need it. I am not saying that united state isn't staving but the country like in the film could get so help from use. We use to much food on our animal to make them fat but don't forget we have to get some food for ourselves sometime. If we would just keep in mind that we need to stop wasting our food we would be alright. Because their all many people out there who don't get any thing to eat. So if you ever think that you are in bad shape. Remember about the people who don't get any thing to eat. But the role of the is to think about other people feeling to not just their own because you might need something from them someday.

R: you know, third world basically, stuff like that, you know, about grain and stuff like that.

I: SO YOU THINK MOSTLY ABOUT OUR WASTE AND EXTRAVAGANCE.

R: Yeah, that's what, you know, that's what the film basically was sayin' you know, lotta wast, all this waste and then all the junk piled up you know, then next you know, it's in the water and stuff.

( )

I: DO YOU THINK SOME PEOPLE MAKE TOO MUCH MONEY?

R: Yeah, (garble) like like them people in NBA makin' all that money - ain't nobody worth that much money.

I: HOW MUCH DO THINK IS TOO MUCH?

R: Like some make a million a year - that's too much money.

( )